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ABSTRACT

This publication contains the proceedings of a symposium on higher education finance and management which examined the current financial and managerial direction of colleges and universities. The event brought together institutional presidents and policy makers, corporate leaders, leading financiers, top college and government administrators, politicians and researchers. Following an official opening and a symposium overview, a panel discussion examined financing higher education in the 1990s. Panelists included a Wall Street executive, a fund raiser and university leaders. Three concurrent sessions were held on the following topics: (1) tuition pricing, (2) current research on reducing institutional cost structures, and (3) financial implications of demographic trends. A luncheon session featured a speaker from the Office of Educational Research and Improvement and a talk by Senator James Jeffords of Vermont. Two talks followed by question and answer sessions treated causes and cures of cost escalation in college and university administrative and support services and state policy and productivity in higher education. A final speech emphasized that higher education finance and management are means, not ends, and that funding mechanisms are important channels of communication for funders and users. (JB)

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NATIONAL SYMPOSIUM ON STRATEGIC HIGHER EDUCATION FINANCE & MANAGEMENT ISSUES IN THE 1990s

8:00 a.m.
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Foreword

These publications are

[redacted] *the proceedings of the National Symposium on Strategic Higher Education Finance & Management Issues in the 1990s, held February 24-25, 1991, in Washington, D.C. The invitational symposium was sponsored by the National Association of College and University Business Officers, the U.S. Department of Education's Office of Educational Research and Improvement, and The College Board.*

(under Contract No. RR90177001)

The symposium brought together the people who create the agenda for higher education: institutional presidents and presidential policy makers, corporate leaders and leading financiers, top administrators from campuses and the government, well-known politicians, and widely respected researchers. The purpose of this meeting was to determine the financial and managerial direction of colleges and universities into the 1990s. The range of issues discussed was necessarily broad. It is hoped that the spirit of this inaugural symposium will continue in the form of a biannual series of conferences on specific topics affecting the higher education arena.

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TABLE OF CONTENTS

Page

Official Opening -- Caspa L. Harris, Jr. 47

Symposium Overview -- Jeffrey L. Gilmore 50

Financing Higher Education in the 1990s

Moderator -- Richard E. Anderson 56
Panelists -- Charles E. M. Kolb 62
Richard T. Jerue 69
Patrick J. Hennigan 75
George A. Brakeley, Jr. 84
Robert M. Rosenzweig 93
David A. Longanecker 106
Questions and Answers 116

Concurrent Sessions

Tuition Pricing

Convener -- Frederick A. Rogers 135
Rita J. Kirshstein 139
Jeffrey L. Gilmore 153
Sean C. Rush 163
Questions and Answers

Current Research on Reducing Institutional Cost Structures

Convener -- Caspa L. Harris, Jr. 185
Michael L. Tierney 185
Frederick J. Turk 198
Roger D. Lowe 209
Questions and Answers

Financial Implications of Demographic Trends

Convener -- Janet S. Hansen 234
Carol Frances 235
K. Scott Hughes 252
Questions and Answers 267

Introduction -- Caspa L. Harris, Jr. 278
Welcome Christopher T. Cross 278
Financing of Research, Scientific Instrumentation, and Facilities -- Senator James M. Jeffords (R-VT) 283

Productivity

Convener -- Frederick A. Rogers 305

Causes and Cures of Cost Escalation in College and University Administrative and Support Services -- William F. Massy 309

Questions and Answers 342

State Policy and Productivity in Higher Education -- James R. Mingle 347

Questions and Answers 362

Future Directions -- Janet S. Hansen 371

PROCEEDINGS

OFFICIAL OPENING

MR. HARRIS: If you would get that last cup of coffee, we would like to get underway, so I don't cut short any of our presentations. Again, welcome to Washington. Welcome to the symposium. We sincerely hope that -- in fact, I know you will enjoy the presentations, particularly after our opening speaker, which I have heard nothing but good things about from all of the participants so far.

I do want to remind you of a couple of things before we get started. One is we expect full and complete participation from the audience by asking questions. And if you would please use the mikes, giving your name, your organization and then the question because the proceedings are being taped. In essence, what we are going to do after that, we are going to publish the proceedings. Obviously, we don't want a question from "Nobody," so if you would please get up and use the mikes, we would deeply appreciate it.

I also want to just tell you one little thing so that you don't become paranoid this afternoon. Many of you have come in with overcoats and we have them on the rack, but we are moving the rack and the coats this afternoon to where we are going to be, which will be in the Bunker Hill Room over in the Lexington Hall on this level. So, you don't have to get panicky if you run back over here and you don't see anything. Your coats will be there.

At this time, I would like to make just briefly a couple of introductions. I am not sure all of the people are here yet, but, first, I would like to express our sincere appreciation to the two major sponsors for this program; the Department of Education and the College Board. I would like to recognize, if he is here, and I am not sure he is here at this moment, Mr. Milton Goldberg, who is the Director of the Office of Research of the Department of Ed.

Okay. He will probably be in a little later. I would ask that you hold any applause until I introduce all of the people. And Dr. Jeffrey Gilmore, who is a research associate from the Department of Ed, and you will hear from him in a few moments.

I would also like to recognize Dr. Janet Hansen, who is representing the College Board, which is the other sponsor of this symposium.

I would like for the audience to recognize three other people. All of you are stellar stars, so it is very difficult for me to get up and start introducing individuals, but after all, like most of you, I work for good people, too, and I want to have them recognized.

First, Mr. Edward Del Biaggio. Ed is the chairman of the NACUBO Board of Directors. Mr. Carl Hanes, the chair-elect of the NACUBO Board of Directors. And Mr. Fred Rogers, who is the chair of the Financial Management Center Committee, which is the organization at NACUBO that, in essence, has the oversight of this particular symposium.

It was through Fred and the committee that this was put together, along with my staff.

At this time, I would like to recognize Dr. Jeffrey Gilmore, who will speak to you for a moment. Mr. Gilmore is a research associate, the Office of Education, Research and Improvement, Department of Education and he is going to -- as a part of our opening presentation, he is going to give you an overview of the symposium on this session.

I said "Mr." It is Dr. Gilmore. He earned his graduate degree in college student personnel services and public administration and received his Ph.D. in higher education from Penn State. He is an author on several publications on higher education, administration, finance and policy and he is currently with the Department of Education in the Office of Research.

He is responsible for post secondary education research centers, grants and contracts. It is my privilege and pleasure to introduce to you Dr. Gilmore.

(Applause.)

SYMPOSIUM OVERVIEW

DR. GILMORE: Thank you, Caspa. Good morning and welcome to the National Symposium.

What I would like to do for the next few minutes is to give you a brief overview of the events leading up to this symposium, explain what we hope to achieve and highlight some of the activities planned for the rest of the day.

The impetus for having this symposium originated some four years ago, when a colleague, friend and former supervisor of mine, Sal Corrallo, first raised the idea of applying productivity concepts to higher education as a research priority within the Department.

At that time, the issue of rapidly rising tuition rates and where all the money was going was being raised by then Secretary of Education Bennett and others. Sal had the foresight to recognize that the national debate over increased cost covered only one side of the issue. In order to know whether the money was being used wisely and effectively, the public needed to know the outputs of higher education, as well as the inputs, to know what they were getting for their money, as well as how much it cost.

Discussions within OERI, together with reviews of the literature, quickly revealed to us the complexity of the problem. Not only were there multiple inputs into higher education, including personnel, money, time, equipment, facilities and other resources -- there was no clear way of attributing any one input with any particular output.

In addition, the outputs themselves were a totally perplexing morass of student, faculty and institutional outcomes and products, both direct and indirect, serving multiple constituencies and often conflicting goals and lacking any common agreement on what constituted or was meant by quality.

Rather than give up, OERI decided to sponsor a study group on productivity in May 1988, to help clarify the issues and identify some possible approaches to the problem of measuring productivity and higher education. Several of the 14 people at that meeting have again joined us today, including Dick Anderson and Aims McGuinness. Welcome all of those back.

Up to and following that meeting, OERI embarked on a series of in-house studies and publications on higher education costs, student outcomes and college quality. The OERI-funded National Center on Post Secondary Governance and Finance, directed by Dick Chate(?) at the University of Maryland, also contributed to the exploration of important higher education finance issues through its Finance Forum, headed by Dick Anderson; research projects on financial aid by Greg Jackson, Lee Hansen and Jay Stanton and the Center's

1988 National Invitational Conference on College Costs.

Congress recognized the importance of financial issues when it mandated that the Department of Education conduct a study of escalating costs of higher education. The final report to Congress was prepared for the Department's Office of Planning, Budget and Evaluation by Rita Kirshstein and her colleagues at Pelavin Associates.

Further pursuit of these interests commenced this past December at the new OERI-funded National Center on Education, Finance and Productivity, headed by Allen Odin(?), at the University of Southern California, and by Bill Massy, at Stanford, who has taken up the reins of the Finance Forum.

Leading up to this symposium and rounding out the other efforts, OERI also commissioned papers by Bill Massy and Jim Mingle on productivity and sponsored a series of studies through NACUBO on cost reduction efforts and student employment in higher education. Over a year ago, when Sal and I first began planning the project that would lead to this symposium, there were objectives we wished to accomplish.

We wanted a concerted effort to explain the costs, outcomes and quality of the undergraduate educational experience. These issues were at the center of many of the calls for institutional accountability in higher education.

However, we knew that this would not be easy. Even the House Subcommittee on Post Secondary Education, which in 1987 organized a hearing on college cost, had concluded, and I quote, "The rising prices of a college education is an issue that concerns us all; yet, because of the complexity involved, it is likely that no easy solution to the cost issue will be found."

One factor, however, seemed to be the key issue, the cost of quality. By studying effectiveness, efficiency and productivity, we hope to have a better understanding of the cost structures and the educational processes of higher education in order to explain why college costs and tuition have increased, to help consumers and policymakers make better decisions about their educational expenditures and have a better sense of the return on their educational investments, to help institutional decision-makers make the best of their available resources in the advancement of their stated missions and to provide useful information for the reauthorization of the Higher Education Act.

And now here we are. Our co-sponsors for this symposium, NACUBO and the College Board, have graciously and generously worked with us to bring together the most current research and the leading lights on the topic. But most importantly, our co-sponsors have invited you, the collegiate financial officers, state and federal policymakers, researchers, corporate leaders and association representatives, to explore the important issues collectively and to exchange the latest information.

It is my hope that today's activities will improve our understanding of the challenges before and our ability to surmount the strategic higher education finance and management issues facing us today. We are well on our way.

Last night's keynote address by Mike Walsh highlighted the lessons that colleges and universities can learn from the business community. Today, immediately following these remarks, Dick Anderson will moderate a distinguished panel of corporate leaders and education policymakers. They will discuss financing higher education in the 1990s, respond to questions from the floor and engage us in a stimulating dialogue of the issues.

Following the panel discussion, we will break into three concurrent sessions for current research and in depth discussions on the pressing topics of tuition pricing, reducing institutional costs and the financial implications of recent demographic trends.

We will then come back together for lunch and a keynote address by Senator James Jeffords on the financing of research, scientific instrumentation and facilities; most crucial issues today.

Following lunch, Bill Massy and Jim Mingle will present papers on productivity. Bill Massy will relate to us several exciting developments. He will tell us how some of the cost reduction strategies Michael Walsh developed at Union Pacific were translated into practice at Stanford. Bill will also review the results of his bibliographic inventory and institutional survey to give us a sense of what has been tried and what is happening, a sort of what works and what doesn't. And he will present the results of his research on the causes and cures of cost escalation.

Jim Mingle will then give us an informative look at the productivity issue from the state perspective. Jim's paper will discuss the ways in which public policy, as expressed through the regulatory powers and finance systems of state government, influences the productivity of higher education. He will review the historical use of regulatory policies, suggest several new strategies for consideration and ask whether productivity is a valid concept in higher education or a compatible objective in the political process of resource allocation at the state level.

Of course, we plan to allow ample time for questions and discussions at the end of each presentation and hope that you will take advantage of the opportunity to pursue these issues further in an open forum.

Closing out what will be an exciting day of discovery, Janet Hansen will lead us through a discussion of future directions, but I must express my own hopes that our consideration of these issues will not end at the conclusion of this symposium.

The full text of the papers that are presented, the panel discussions and the keynote addresses will be compiled and published in an edited transcript of these proceedings for use by anyone concerned or involved with higher education, finance and management issues. This symposium will not be the last word on college costs and quality, but, hopefully, the impetus for new approaches to the problem.

Thank you for coming. Now, let's get on with the real business at hand.

(Applause.)

FINANCING HIGHER EDUCATION IN THE 1990s

MR. ANDERSON: Thank you. This is going to be a panel presentation and I thought it would be useful to set a little context. So, before coming back here East, I set aside the contracts and budget work that I was doing and went back to my book shelf and started looking through the list of titles on my shelf and bibliographies about higher education finance.

It is not a long list of cheer and sunshine. If you go back to 1965, there is a crisis in college finance, time for new solutions and then, of course, in the early seventies, many of you will remember the new depression in higher education. Moving into the seventies there were varieties of financial crises, meeting the financial crises, managing faculty reduction, surviving the eighties, strategies and procedures for solving fiscal and enrollment problems. Then again in the early eighties, faculty retrenchment in the eighties, a question of how many and how managed.

Then there were the titles of alliteration, Mike, the three R's of the eighties: reduction, retrenchment and reallocation, following shortly by deficits, declines and dismissals, faculty tenure and fiscal exogency.

Also on my shelf, there was a piece by Robert Hutchins, entitled "Hard Times and Higher Learning." That was 1933.

The persistent financial problem in higher education, I think, speaks as much to higher education's ambitions as to the state of financial well-being. There never is and there never will be enough money for what we want to accomplish. When we secure more funding, we immediately expand the scope and/or the quality of the enterprise.

We add more students, more research and more service. So, we are ever at the cusp of a revenue shortfall, which threatens the students we have just enrolled, the buildings we have just built or the faculty we have just hired.

It is only in hindsight that we recognize good times and it is in hindsight that we look back on the 1980s with the knowledge that they were, indeed, good times. The revenue base for most institutions increased dramatically in real terms; that is, above inflation.

Will the problems of the 1990s be as severe as they seem in prospect? Well, we have a distinguished panel to help us sort through these issues and I have arranged their speaking order somewhat arbitrarily, but I guess as I see it, at least in groups in distance from higher education.

We will start with government perspectives and move to Pat Hennigan in a view from Wall Street and the financial markets and then to George Brakeley in fundraising and onto Bob Rosenzweig and Dave Longanecker, who come closer into the higher education camp and fold.

Let me just take a moment -- you all have the bios in front of you, so I am not going to read them, but just let me make a few remarks about each of the individuals. Charles Kolb, to my left, is Deputy Assistant to the President for Domestic Policy. He has impressive credentials for helping us understand the federal perspective.

He is an attorney by training. He has degrees in philosophy, politics and economics. He perhaps could be somewhat better qualified for budget cutting had he done a residency in surgery, but in that regard, he was the Deputy Undersecretary for Planning, Budget and Evaluation at the Department of Education.

To his left is Rick Jerue, the counsel to the Subcommittee on Labor Management Relations of the Education and Labor Committee in the U.S. House of Representatives. Since 1988 or prior to that and since 1988, he was staff director to the House Subcommittee on Post Secondary Education. He has a long involvement with higher education. He was associate counsel to the Senate Subcommittee on the Education, Arts and Humanities. In 1981 through '83, he was staff director for the National Commission on Student Financial Aid. He also served as vice president for Government Relations at ASQU(?). So, Rick knows both sides of the higher education/government tension.

To the far left is Pat Hennigan. Pat is vice president for Public Finance and Investment Banking at J. P. Morgan Securities. He has been with J. P. Morgan since 1982, where he specialized in working with college and universities on their access to debt capacity and advising them on rating agency strategies. Prior to that, he was a professor at Cornell University. I have gotten to know Pat both in my capacity as director to the Forum and as a valued adviser to Washington University and it is always a pleasure to work with Pat.

Immediately to my right is George Brakeley, founder and senior counsel of Brakeley, Jones, Price, Incorporated. They advise non-profit organizations and colleges and universities on fundraising. George has been personally involved in helping many of the institutions that you would know by name raise funds for many years. He has also written a book, "Tested Ways to Successful Fundraising."

I have not been involved much in fundraising, so in preparing for this panel, I ran into Dave Blasingame, our vice chancellor for development, and said, Dave, I am on a panel with George Brakeley. Can you tell me anything about him? And he stopped and he said the only thing to tell you is that in higher education fundraising, George is the person to have. You couldn't have a better person to help you think through these issues.

In the middle to my right is Bob Rosenzweig, president of the American Association of Universities, a position that he has held since 1983. Before joining AAU, Bob was the vice president for public affairs at Stanford, a position I have to think had to have been at least somewhat easier in those days, Bob, than it has been of recent times.

I don't have to go into a long introduction of Bob. Almost all of you know him, I am sure. Just simply that there is probably no one more knowledgeable or insightful about the nexus between higher education and science policy and science funding than Bob.

And to the far right, Dave Longanecker, executive director of the Colorado Commission on Higher Education. Dave is also president-elect of SHEEOA, the State Higher Education Executive Officers Association. He was executive director of the Minnesota Coordinating Board before moving to Colorado. As a skier, he moved, and I can understand and I think he must enjoy. Dave has had a long involvement with higher education and policy, particularly in the area of student aid. He has a unique and authoritative picture of both state funding and national student aid policies.

Now, the format of the panel is that I am going to direct some questions to each of the panel members and I would like to have the audience, if you would, hold your questions until the end. We are going to go through these fairly quickly, so that there will be plenty of time for audience participation.

When you ask questions, please step up to the microphone, identify yourself and speak clearly. As you have heard, we are taping the sessions and they are going to put this into a published format.

At the close of the session, we will break out into three breakout sections, one on tuition pricing here in this room and then there is one on the financial implications of demographic trends at the Lexington Bunker and then -- it is the Lexington Bunker Room, but discussing demographic trends, a "bunker" may be a more appropriate term. And then current research on reducing institutional cost structures in the Conference Theater at the lobby level.

Student loan defaults has been very much in the news. My first question to Charles Kolb is what does the Administration, Charles -- what do they feel is the best way of addressing student loan default -- the student loan default problem?

MR. KOLB: Thank you very much.

I wish I could begin by explaining why I didn't go to medical school since there was a reference to budget cutting before, but maybe I will have a chance to get to that later.

The question has to do with student loan defaults, which I think is an excellent question. When I was at the Department of Education, I spent a considerable amount of time -- pretty close to 50 percent of my time in the Office of Planning, Budget and Evaluation was spent on post secondary education matters and right from the beginning, my first day on the job in September 1988, I spent a lot of time on the default issue.

Of course, at that point, one's attention was riveted by the situation on the West Coast, the united education and software complexities that came up. And I guess it is fair to say that was one of the first major shocks to the system in recent years and, of course, that was subsequently followed by the complications of last summer.

As to what one can do, I think the problems in this area are pretty obvious in terms of the shocks that the system has seen. The high cost of defaults is something we all know. It is pretty close to 50 percent of the funds that are budgeted for Stanford loans. And I think the Federal Government and the Department of Education has taken a number of steps to -- first of all, to tighten up the system and some of those steps have not met with resounding applause, but I think the Department has also recently published a manual, which includes recommendations as to what all the participants in this series of complex programs can do to help get down defaults.

Now, one can go back over past history, look at all those things, but we are really at a time now when we are facing reauthorization and I think that one of the most important things that we can do to try and address defaults

-- it is not the only thing, but it is an important thing -- is to look for ways to simplify some of the program structures.

What I continued to hear when I was at the Department of Education was that these programs, while effective in terms of providing access to post secondary education, are also extremely complex and often confusing to the people who have to administer them or to the people who are the intended beneficiaries of them; that is to say, the students. I think that those of you who are players in the system can help all of us in terms of suggested changes that would streamline the structure, make it easier to administer, not only from Washington, but also from the institutional perspective and also make these programs a little easier to understand from the perspective of consumers, make them a little more user friendly.

We can try and sort of clean up after the elephant, so to speak, in terms of, you know, trying to recoup the money after it has been paid out or try and recoup defaulted loans, but I think in terms of institutional quality and the overall quality of the system, we would be better off if we could address some of the structural problems we know are there, which we think also lead to higher defaults.

MR. ANDERSON: One of the issues that has come up is the possibility of colleges and universities playing a role as a source of capital. What is the current thinking about colleges and universities as a source of capital for student loans?

MR. KOLB: I am not sure that anyone has proposed that colleges and universities be a source of capital. If what your question is concerns a possible proposal for a direct loan program -- is that what you are getting at?

MR. ANDERSON: Yes.

MR. KOLB: That is currently under review. I believe in the President's budget that was released a couple of weeks ago, it was indicated that this proposal was under review and would be considered, if it were deemed to be feasible. Of course, at this point, we are on the verge of having a new Secretary of Education. So, I think it is fair to say that things are still at the under review stage.

MR. ANDERSON: Okay. Many of us in higher education assert that there is a growing mismatch between the industry's current structure and its ability to finance the burdens that are placed upon it. The list includes educating more economically and educationally disadvantaged students, dealing with the tens of thousands of displaced workers and the world competition that requires broader range and more sophisticated research.

What types of incentives can education

realistically expect from the Federal Government to support these endeavors?

MR. KOLB: I am not sure how to answer that question. I think it is the wrong question. So, if you will permit me, I would like to answer a slightly different question.

The reason I think the question is wrong is because I don't think you should look just to the Federal Government for the incentives. Post secondary education, I think, has a very difficult but challenging mission. If you look at the K through 12 system, and I am speaking very generally now, the goals or objectives of a K through 12 system are fairly clearly spelled out. I mean, there is an end point, so to speak. Something will happen or won't happen to a student after the 12th grade.

But when you get to post secondary education, it is basically open-ended. If K through 12 prepares you for what comes next, for post secondary education the "what comes next," I think, is much harder to define and you have a whole range of choices, whether it be graduate, for the graduate work, going right into the job market, doing a whole host of other things.

So, I think it makes it harder to answer that question. I do think, though, it is useful to try and answer that question in terms of asking what is the value added of the post secondary education endeavor and whether this means that there should be goals for post secondary education or for particular institutions, I think, is really up for you to answer. But I think rather than begin by asking what the federal incentives are, I think the most important thing for post secondary education to do now is to define its own mission. And that mission is, indeed, one which would change dramatically, given, as you point out in the question, the additional challenges that are placed upon all of us.

It is a much tougher challenge, I think, because of the fact that it is open-ended, but I have said in speeches -- in fact, I said it last week to a group in Milwaukee -- our post secondary education system is the strongest in the world. That isn't to say it doesn't have problems, but when you look at the quality that is there, it is pretty good. There will certainly be some adjustments in the future, but it is a system that I think we can pretty much be proud of.

MR. ANDERSON: Given everyone's desire to cut administrative costs, how might the Administration propose to simplify what is often -- is, in fact, simply micromanagement and that is from student aid to animal care?

MR. KOLB: You mean, micromanagement by the Federal Government?

MR. ANDERSON: That is right.

MR. KOLB: Hadn't noticed.

Fortunately, I didn't have to do any of that when I was at the Education Department, but I understand what you are saying. I think there is a tradeoff here and perhaps you could help us reach it.

Maybe I am naive in saying I don't think the Federal Government wants to micromanage. I think what we would rather have is a system, which was structurally sound, with good incentives for management and also enhanced accountability in terms of the quality of the outcomes and let the system sort of run itself with audits and other types of intervention where it is appropriate.

I understand what you are saying right now. I mean, if you look at the system now, its complexity, I think, almost invites that type of micromanagement. So, again, to go back to the point I made at the beginning, if we can find ways to simplify the structure, I think you will see a change in terms of that level of micromanagement.

MR. ANDERSON: One of the problems that higher education clearly faces right now is that there is an issue of credibility or competence, if you will. What I am going to do -- the question is in some ways more appropriate for some members of the panel than for others, but what I am going to ask each member of the panel the same question because I want to get -- I think it is useful for us to hear a perspective of how higher education management is viewed, as we go back to our campuses or our policymaking positions.

So, Charles, on a scale of 1 to 10, as candid as you can be, how does the Administration rate our management of American higher education?

MR. KOLB: I hate to be the first one to answer that question because I am not going to answer it. I don't feel that I am in a position to speak for the Administration. I mean, I have friends who are in higher education management. I just don't have an overall -- I don't have an overall view. The people I know who do it, do it very well.

MR. ANDERSON: Okay. Let me start out with Rick and ask you straight out how the legislature and staff would answer such a question?

MR. JERUE: Well, I guess judging from most recent -- the last couple of years of legislative activity, probably not pretty well, not very well. If you just look at the kinds of legislation that we have enacted and the President has signed into law, whether it be default reduction legislation or student right to know legislation or campus crime legislation, I think there is a feeling that colleges aren't managed very well.

MR. ANDERSON: The Administration's budget proposal has suggested, as I understand it, a cap on the tuition charged at proprietary institutions to federally-aided students. It doesn't take a terribly fertile imagination to envision some variant of price controls extended to not-for-profit colleges and universities.

How significant, Rick, is affordability? How significant a political issue is affordability of higher education and can you imagine some set of circumstances that might lead to price controls in the broader industry?

MR. JERUE: I think affordability is an extremely important political issue. It is without a doubt -- well, it depends on what time of the year it is, but it is certainly one of the issues that we get the most amount of mail on, particularly when college bills come due.

I think most members of Congress have had college experiences. They have got families. They have got children going to college now. They are struggling with trying to afford paying for college. Their constituents are concerned about it. I think it is probably as important an issue that will dominate reauthorization as any other.

I think if something like the budget proposal, limiting the amount of cost that can be covered by student aid at proprietary schools, is adopted, I think it sets a trend that could easily be followed for the traditional sector. If you buy into the concept that the cost of vocational training should be linked to community college costs, it is not very -- it is not a hard leap to say that the costs of education that are going to be covered by federal expenses would be a cost that is somewhat equivalent to low cost public four year institutions.

So, I think it is an issue that you should be concerned about and I think the whole affordability issue is one that will be looked at very closely during reauthorization.

MR. ANDERSON: We are now in the throes of reauthorization, as you mentioned. How likely is Congress to really tackle structural reforms in the federal student aid programs?

MR. JERUE: I hope very likely because I think the student aid programs are terribly flawed right now. I do hope the administration keeps pushing the concept of a new direct lending program. I think that offers an awful lot of promise towards simplicity and doing away with some of the complexity of the program that currently exists.

Last year, when we were doing the budget reconciliation bill, we had proposed in the House, reducing some of the lender subsidies in the guaranteed student loan program as a way of trying to come to grips with some of the budget savings that we had to come up with. As you could imagine, the lenders were quite opposed to the reduction in their subsidies.

But when we were making that proposal, we asked the Congressional Budget Office to project what the cost of the guaranteed student loan program would be over the next five years in terms of annual federal appropriations. That cost was approximately $18 billion. Of that 18 billion, close to 13 billion would go to lenders in terms of subsidies.

I think you really have to raise the question of whether a program that is so heavily subsidizing lending money that goes directly to banks is the best way of trying to finance the student aid system. I would contend that much of the default problem has to do with lending practices. When you are lending to low income, students who have never had a borrowing experience in the past and you do that through the mail with 24 to 48 hour turnaround because you have a favorable guarantee agency, who has a close relationship with you, I think that contributes to the default problem.

So, I think major structural changes, such as institutions being the major lenders in the program, regardless of how that is financed -- we can discuss financing mechanisms all day -- and a simplification of the grant programs make an awful lot of sense.

One other major structural change, I think, that is absolutely needed is our student aid system today does not reward persistence and I think some way of trying -- and it gets, I think, at the quality issue -- some way of trying to structure at least a campus-based system, that would reward persistence and a student's moving through the system and achieving, I think, is extremely necessary if we are going to continue to gain the sort of political support for the programs that we so desperately need.

MR. ANDERSON: When you talk about -- and this would be to either of you -- when you talk about direct lending, are you also thinking about some form of co-insurance in the loans and the institutions would be in part responsible for insuring the loans?

MR. JERUE: I think we are looking to all sorts of suggestions on how to do direct lending. I don't think anything is either -- is off the table or not open to discussion. I just think that if, indeed, we are going to hold institutions accountable for the defaults of their previous students, we have to give the institutions more of an immediate and direct role in originating those loans.

Today you have too many other players that are beyond the control of institutions and whether it be institutional co-insurance or federal insurance or whatever, I think all of those matters are open for discussion.

MR. ANDERSON: Given the projected democratic --

demographic changes --

MR. JERUE: We hope it is Democratic. Charlie won't comment on that, but I hope it is Democratic.

MR. ANDERSON: Given the projected demographic changes over the next decade, how is Congress's interest in higher education likely to change?

MR. JERUE: Well, I think it -- you know, I think historically the federal role, at least in Title IV and at least in some of the education programs, has been trying to ensure that finances are not a barrier to post secondary education. If you look at the trends of minority enrollments, who the next generation of college students will be, the fact that older students are becoming increasingly the majority on college campuses, we have to look at the programs and see if it is continuing to address these new populations.

I don't think it is doing it very effectively now. So, I do think that the programs are going to have to change dramatically.

The other major political force out there that -- you know, unfortunately or fortunately, I work for elected officials -- is the whole -- whether it is a true perception or not, the perception among middle income Americans is that they cannot finance college and that federal efforts are not aimed in their direction. I think there is going to be a tremendous effort this Congress to try to expand student aid programs to try to address some of the concerns of middle income families.

That effort is going to run head on into the budget difficulties we have, to the new budget rules, to the tight budget times that are confronting the federal budget. However, if I hear the members of our committee correctly, more and more of them are interested in trying to make sure that middle income families are somehow included in the Title IV student aid programs.

MR. ANDERSON: Thank you.

Let me move to Pat. Pat, how would you characterize the public debt market of the 1990s and in that regard, are colleges and universities more likely to rely on public borrowing than in the past? There has certainly been a lot of it, a big increase in the eighties.

MR. HENNIGAN: I would like to start by answering your other question about how would you rank university administrators on a scale --

MR. ANDERSON: I wasn't going to ask you.

MR. HENNIGAN: Others are a little less comfortable.

I have some other data that I think are useful from the market perspective. From the investors' perspective, investors who buy your bonds and notes, I think they generally would rank college administrators about 7 to 8 on a 10 point scale and hospital administrators about a 5 or 6. The reason why I say that is that when you look at the outstanding ratings from Standard & Poor's alone, 80 percent of the university ratings are A or better, while only 62 percent of the hospital ratings are A or better.

The big change has been '83 to '89. My concern as we go into the nineties -- my concern is that we devise strategies for keeping the cloud that has been following health care from following higher education as we go into the demographic trough in the mid-nineties.

I think as we look at the public debt market, we can look at the market as a whole and then look at the higher education sector within that market. Toward the end of the eighties, as a lot of the revenue bond categories became a big riskier for investors, we sort of call it a flight to quality. A lot of buyers have bought higher education bonds, who really didn't buy them in the past.

For about two to three, four years before I went into the banking side, I was in the research side and my job there was to spend a lot of time with investors, trying to help them understand how you do your financial statements, which is always a challenge. I recently was working with corporate investors. We were working with Columbia University on a taxable MTN program and the first step was trying to educate my sales force on how Columbia presents its financials to the outside world and then to convince the investors that they can understand these. They are used to the corporate.

So, there are some things on the accounting side that can cause a certain amount of concern to people who read numbers for the first time.

When we look at the general market, there are a number of angles. Supply rates -- who can predict rates -- credit spread, demand, access -- I have already said you have very good access. There are probably more investors we would like to see buy higher education bonds, but more are buying them now than used to -- credit quality and, of course, changes in the tax laws.

When we look at the supply side, the market in general has been issuing about 120, 125 billion a year. The total amount of municipal debt outstanding is about 800 billion, which is roughly the size of the corporate bond market. The markets are very similar. And, as you know, corporate credit quality has been plummeting in the last few years. Health care has been dropping off since '83, but S&P believes it will start to stabilize this year.

Higher education is poised in an area where people are going to start getting more concerned, but the things that I hear from administrators around the country in both independent and public institutions is that when you are taking a two or three or four year horizon and you are doing things to manage what you see as problem years, those are the kinds of signals that investors want to hear.

I think what they don't like is they bought a AA bond that tends to show an 8 to 12 million dollar surplus for the last five years and this year it has a 20 or 30 million dollar deficit and it is rather startling. They are not quite sure how it all came about.

But a couple of the interesting things we see occurring in the nineties, especially from around '93, '94, we expect to see 20 to 25 percent of the market supply decline because of pre-refunded bonds that were sold in '80, '81, '82 and have been pre-refunded. The first call comes in '92, '93, '94. If you are talking about taking 150 billion out of the 800 billion dollar market, there have to be -- people have to find other investments for those dollars.

The general supply is not going to be keeping up. So, we think there is going to be a very strong demand. If you believe that the aging baby boomer generation, the second baby boom coming, but if they are starting to invest more rather than spend, there is going to be also another aspect there of increased demand.

The tax law changes are a bit of a concern. It seems to me we have pretty much sort of a three-tiered market. We have the independent schools over the cap, the independent schools under the cap and the public institutions. I think in terms of the nineties, we are going to see more public institutions come to market because state treasuries don't have the kinds of reserves they had at the end of the seventies going into those recessions.

When we do any kind of comparison of state treasuries, if you look at the surplus in relation to the budget or any measure of wealth in the state, it is far lower than it was going into the recessions in '80, '81, '82. So, we just don't see a lot of money in the state treasuries and competing infrastructure needs.

So, my sense is that more and more public institutions will be looking for ways to come in. We have seen three already come in to the market using indirect cost recovery as the security. I am not sure that is going to heat up.

(Laughter.)

But we hear from a lot of other state treasurers and others that are looking at auxiliary and different kinds of issuance. For the independent institutions, it seems to me it is a question of -- I mean, a lot of us heard -- have talked to Matt Hamel(?) and other congressional aides and it is a question of leadership. It is hard to build a dynamic constituency of voters out there for the 20 to 30 institutions that are over the cap. It is really tough.

I think if the general perception is that our higher education system is starting to lose its edge in terms of research and the preeminence we have in those areas, that that may lead to a compelling argument. I don't think it is the dollars and I think that that would then affect the type of issuance and the role of the sector in the nineties.

But I think just generally we are going to see, as I said, greater demand, not a lot of supply and, hopefully, your ability to maintain this, I think, strong perception of the quality of higher education management will be a key factor.

MR. ANDERSON: The credit rating are an attempt to assess the likelihood or the non-likelihood of default. Specifically, what are the factors that S&P and Moody's are looking at most closely and what can we do to improve our credit ratings?

MR. HENNIGAN: Well, as I mentioned, compared to many other sectors, the -- the sector as a whole is a strong sector in terms of credit quality. There is generally a great lumping in the A category. I know a number of you folks that have gone in to press for rating increases have found that sometimes there is sort of an A1 hurdle with public institutions and some of the smaller colleges. The larger research institutions are able to press their case and do better.

Obviously, the emphasis we are hearing a lot when we work with clients is the whole demand side, the whole -- there is a lot of concern about the fact there is some confusion over matriculation ratios or yield and we are finally seeing declines in application pools. So, that is causing a bit of concern.

But, as I said, I think the key issue is hitting it head on, as a lot of you have been doing, building in declines into projections, looking at the two or three year plans to reduce spending to levels that are manageable and also the whole issue of strategy for the spending rule off endowment. We are seeing more and more, I think, emphasis on that when rating analysts are talking to universities.

Universities that are spending 8 percent or trying to get a spending rule down to 4 or 5 seems to be a much better target for the future. There probably will be -- when you review the credit for 1990 in the municipal area, the greatest number of down grades were on housing bonds for 1990. But the next category were hospitals and colleges and universities, which I found a little surprising.

I think part of that is skewed in 1990 because we had all these down grades in New York State and if you start down grading State University of New York, which has outstanding related to its name, almost $3 billion or so in debt, I mean, that is a big chunk of the market, and City University, which is another billion three. So that it looks on a statistical basis that colleges are starting to go into this down grade phase, but I don't really believe it is true nationally.

S&P points out the New York schools and then will sometimes point out two or three independent schools that it had down graded over the last year or so. But the general trend, to me, doesn't seem to be as serious as in health care.

MR. ANDERSON: Certainly, the default rate in higher education has been very, very modest. Do you see any change in that? Do you see defaults increasing at all?

MR. HENNIGAN: I think if you look at the overall picture, the last time we saw serious defaults occur, I believe, was in the seventies. A lot of you probably recall stories about three of the schools in New York. I think it was Ladycliff, Briarcliff and there was one other institution that actually closed, and they all had -- I think all three of them had debt outstanding.

One of the schools happened to have a high rise building in Manhattan at the time that Manhattan real estate was doing very well. I believe one of the schools was bought out by West Point. Another school -- and all three of them had issued through the New York State Dormitory Authority. So, you had a situation where the Dormitory Authority was able to manage -- there was no default to the bond holders. The schools defaulted to the Authority.

That is one type of protection that I think investors see in the nineties, that they expect for the most part probably some what you might call third tier schools to have serious problems. If they have debt outstanding, it is up to -- hopefully, the state authorities will figure out some ways to manage that debt since everyone has to issue through a state instrumentality.

The public institutions, the degree to which buys probably will look toward public institutions that have system-wide issuance would ameliorate some of their concerns. If a state is in a real bind and has 14 feeder campuses and a main campus, the likelihood, even though it is very politically difficult to do, one might close a feeder school. It would keep the system intact, you know, strong enough to cover the debt service.

I think the default history is far lower than what we see in other sectors and once again it will be the way that is managed in the nineties that will affect the perception.

MR. ANDERSON: Well, let's shift from funding assets based on debt to funding assets based on equity.

George, as we enter the 1990s, there are a number of very significant clouds on the horizon, if you will, or have already approached and are raining on us. We are admittedly in a recession. There is war in the Persian Gulf and there is a seemingly intractable federal deficit. How will these and other issues, as you see them, affect philanthropy in the 1990s?

MR. BRAKELEY: I guess I would say modestly. Historically, philanthropy has held up under all circumstances, except one or two years during the Great Depression and this includes wars and budget problems and one thing or another.

Historically, again -- historically, for the last four years just for instance, the funding for higher education has remained constant in adjusted dollars at around 7 1/2 billion. I don't see that changing next year; that is, 1991, materially. I have done some research on gross national product, disposable income, campaign, the totals of philanthropy for the last three years, projected into '90 and '91. I was fortunate to get statistics on GNP and disposable income from IBM, so they are not politically influenced.

I had hoped to relate discretionary income to these other statistics. Philanthropy comes out of discretionary income in almost all instances. In 1983, we got figures on discretionary income from the Conference Board, but they have stopped maintaining, keeping those kinds of figures, as have other economists and scientists, if you will, in this business, who look at philanthropy.

Philanthropy, in 1989, was $114 billion and I would suggest that that will go up. That was an increase of 10.5 percent over the previous year. I suspect that it will go up about 9 percent. So, it ought to be almost 3 percent ahead of inflation.

At the same time, higher education proportionally will suffer somewhat as I indicated; that is, it will in constant dollars about hold its own in proportion to the last three years. I project discretionary income in 1991 at one trillion one hundred billion dollars, of which about 10 percent will go for philanthropy. That is the pattern that had been earlier set when we could get those kinds of figures. How accurate it is, I don't know, but I have tried it on a variety of people who watch this and they think it is acceptable at 10 percent. So, I multiply philanthropy by 10 and I get discretionary income of a trillion one hundred billion dollars for 1991, at least; probably a bit more, which makes -- I make the point particularly here that there is an awful lot of money out there that nobody is getting in the philanthropic sense.

There are a number of reasons, which we might go into and I believe you have got a question on that. I think it will hold up. I have got a few samplings. For instance, in 1989, '90, 20 campuses of the California State University system were up 25 percent over the previous year. As a sampling of 20 colleges and university, which in 1990 were up 20 percent over 1989, including six capital campaigns, and that includes Stanford for a billion and one hundred million, the University of Pennsylvania for a billion and a few others.

There are always going to be capital campaigns, so there probably is not a problem and they are counting, of course, the cash payments made during that calendar year. There is a sampling of 484 private colleges and these are the smaller institutions, including 17 capital campaigns. They were up 11 percent in 1990. That is calendar 1990.

There are a number of other facts; annual giving in the Ivy Leagues, M.I.T. and such is just about holding even or a little bit off.

The patterns of giving have been changing somewhat. A major Ivy League institution said that they have had the lowest number of stock gifts in their history in the first six months of academic '90, '91. The life insurance business is holding up and peculiarly enough they are getting gifts of personal property in large quantities.

These are art collections, cars, yachts, everything but real estate. Never seen anything like this before.

The individuals are often selling off and giving the cash to make up their commitments. The reunion gifts, which typically are the -- with capital campaigns are the principal source of private funds for higher education, seem to be holding up. Personal giving is holding up at 2 percent of total income and will continue to hold up.

There is always a mistake in viewing philanthropy in toto because 47 percent of philanthropy is religiously oriented, going to churches,parochial schools, other diocesan needs other than colleges, church-related colleges. So, we are really talking about 50 percent of the total of philanthropy, of which higher education on that proportion would be getting more than the 9 percent that it is considered to be getting now; something over 8 percent.

Again, I make the point that recessions and wars heretofore have not interfered with the promise of philanthropy as such; however, we do have some unusual challenges now in higher education, not the least of which has been mentioned inferentially here and that is the tuition problem, the growth of tuition, the growth of administrative and support costs, which I think is in the minds of people but not yet seriously affecting philanthropy, because so much of the money that is contributed to higher education comes from wealthy individuals in capital campaigns and reunion campaigns, the reunion year campaigns.

The rich are getting richer, no matter how you look at it. The people with deep pockets are not influenced by recessions or wars. Typically, we would find in a capital campaign, just for instance, that the top five -- the top ten gifts will probably provide 45 percent of the money. We don't worry about the smaller gifts. They are going to come in anyway if we just do our job. But even this money is getting tougher to get because the tax incentives have decreased and there are competing causes, so many more campaigns, if you will, and so many more and greater needs, particularly with the reduction in federal support of so many non-profit institutions. Competing demands is getting to be a factor.

And another factor, which has come up inferentially here is that state level taxes are inevitably going to increase. I live in the State of Connecticut and there are some advantages in the governor's new budget for older citizens, if it gets through, but he is going to impose an income tax.

Well, in a way, we are giving away somebody else's money, government money, but there is a psychological effect of this and I think we are going to find in many states that this will influence philanthropy, but I still maintain that philanthropy will hold, even, I think -- I am predicting, projecting, if you will, that philanthropy will go from $115 billion in '89 to 125 billion in 1990 and to 135 billion in 1991.

MR. ANDERSON: How about corporate and foundation support, is that likely to shift? Will it be any different in the corporate and foundation world in general private philanthropy, wealthy individuals and private, small donors?

MR. BRAKELEY: It used to be the corporations gave about 5 1/2 and foundations about 5 percent of the total philanthropy. That is switched around now. Corporations is slightly under 5 and foundations are somewhat above that.

I think we are going to see some slippage in corporate support of higher education. It has already slipped. It is not a serious slip, but it is, without question, a reduction. They are changing their priorities, corporations, giving more to lower levels of education for one thing, human resources, human services, and this is primarily detracting from the funds available to higher education, arts and culture and a few of the more esoteric forms of philanthropy.

Foundations, I think, will continue about the same, perhaps with a slight reduction. Their interests, again, seem to be -- their priorities are changing. We have seen Ford, for instance, change over the years. Rockefeller has changed. They emphasize non-educational giving more than other types of enterprises, which, again, are more human service, human people oriented.

MR. ANDERSON: You have already to the potential effects of the rising costs and price of higher education on public and private philanthropy. You might want to expand on that a bit. But then specifically how will the perceptions of our seemingly inexorable price increase affect ambitious fundraising campaigns?

MR. BRAKELEY: Of the very large campaigns -- and I have been in this business, outside of World War II for four and a five, I have been in this business for 54 years. I have four grandchildren in college, one at Dartmouth and one at Princeton, where they got hit very heavily. I am very aware of this as a problem relating to the cost of educating.

One of the others is at the University of Maryland and he is now with the Brewers. He is a six foot six inch left handed pitcher. So, we are looking for some funds coming into the family.

(Laughter.)

They gave him $30,000 just to sign up. He got a car right away.

(Laughter.)

MR. ANDERSON: And you attribute that to his experience at the University of Maryland.

MR. BRAKELEY: I think these costs are influencing the public psyche but not yet seriously.

I was going to jump into this question of yours that you posed earlier on where I would rank respect, if you will, or confidence in higher education administration or the management of these institutions. I would give it about an 8 and I think there is suspicious respect for most higher educators.

MR. ANDERSON: I will take respect any way I can get it.

All right. Thank you very much.

MR. BRAKELEY: Could I add a little something to that?

MR. ANDERSON: Sure. Go ahead.

MR. BRAKELEY: While higher education is affected more than other philanthropic interests by the stock market, I would like to make that point that the wealthy people who give most of the money still have it and are not affected by the stock market, by recession or by wars. This means that the development commitments, the presidents, the trustees and the senior officers simply have to go out there. We know the money is there and if they get after it in person-to-person kind of solicitation at the peer level, I think more money can come in.

We are not doing enough of that. There is a tendency to have paid solicitors; that is, the staff and the development staffs go out and raise money and this is, I think, denigrating the whole process of philanthropy and you can't ask at the peer level when you are even an $85,000 vice president of a development. You can -- after many years of cultivation, you can talk to them as an equal, but that doesn't happen too often.

And individuals, and this is where most of the money for higher education comes from, the typical alumnus of a private school particularly, but all of higher education is in the top fifth in net worth in the country. This is a basic statistic. And these people, we find, and I read a lot, are typically confident that the economy will be back to something approximating normal in about next year.

Now, it depends on who you read and who you talk to, but I submit this as a sort of consensus out of readings that I did in preparation for this, but I do it all the time anyway. So, I think philanthropy has its own problems, but in terms of the future and particularly in the future of higher education, it is pretty sound. It is probably sounder than most other forms of financing and far less suspicious than the increasing costs of administration.

MR. ANDERSON: Thank you.

Moving on to research, Bob, the recent federal proposal for appropriating money for science looks surprisingly good. Frankly, what sort of chance do we have that Congress is going to appropriate these funds? We can push that back to Rick after you have responded, if you want.

MR. ROSENZWEIG: That is an easy question to answer. The answer is zero. I gather you have talked to some of my friends, who have told you that nothing I have to say on the subject of management is worth listening to, but maybe I can come back to that question a little later.

It is a very good science budget all in all. Certainly, compared to other objects of domestic discretionary spending, the Administration has made a social policy choice, if you will, that research and development are high priority items for available discretionary spending.

But there is very little chance that the Congress is going to do what the Administration has asked. If you look at recent budgets, the experience has been with the two main agencies that support university-based research, the National Institutes of Health and the National Science Foundation, that over successive years, the Congress has exceeded the appropriation request for NIH and cut the appropriation request for NSF. And I think that will be the experience this year.

Also, there are a lot of reasons for that. They come in different appropriations subcommittees. Biomedical research has a special place in the affection of congressional and public minds because of its obvious perceived relationship to public health. The National Science Foundation is a favorite, has been a favorite agency in the age of the competitiveness crisis, but hasn't fared as well compared to NIH, in part because it competes every year with -- in appropriations subcommittees in the Senate and the House that have to fund the chronically underfunded -- that is, underfunded in Administration budgets -- veterans' health programs, housing and urban development and it also competes with NASA and with the Environmental Protection Agency. So, it is some very tough competition.

The result has been, when you combine that with the Congress's affection in recent years for science education, the result has been that while NSF has gotten increased appropriations over the last four or five years and significant increases in appropriations, the core programs of NSF, the programs that fund investigator-initiated research, which most people believe, most people who think about it believe is the seed bed of creativity for American science, those programs have on the whole suffered.

A majority of them are funded in real dollars less generously now than they were a decade ago and there is a real risk that the same thing could happen again this year, the reason being that while the Administration has asked for 17 percent -- I guess it is a 17 or 18 percent increase, suppose they get half of that? I mean, it would be a generous increase in any agency's appropriation to get 9 or 10 percent this year. Where is the reduction going to come from? It is not going to come from science education.

It is unlikely to come from the centers programs, at least not most of it and the main object -- the main target is likely, again, to be the investigator-initiated programs. That is a very serious risk. How can that be countered or what can be done about it. Well, the great flaw in the good science budgets we have had in the last half dozen years is that first the Reagan Administration and then the Bush Administration sent them up to the Hill and then forgot about them.

There is no political activity on behalf of science at all, unless you count NASA as science. I don't happen to count most of NASA as science. I mean, I would argue that you ought to put the space station aside. It is the greatest public works program in the history of the world and some valuable things may come out of it, but it ought not to be counted primarily as science.

The political effort on behalf of the National

Science Foundation and the National Institutes of Health has been largely absent. Unless this Administration this year is prepared to go at the critical times to the relevant appropriations subcommittees and say we want National Science Foundation funding more than we want additional money for X, Y or Z, it is not going to happen.

That is the answer to the budget, I believe. Now, there are some other aspects of the budget that need to be -- that deserve some comment, I suppose. There is a risk in the NIH budget. The budget that the Administration put in, while a generous increase, 6 or 7 percent, I think, over last year, is not adequate to fund fully the number of grants that the Congress is going to be pressured to make, the number of grants.

That has been a problem over recent years, when the appropriations -- as the appropriations have been inadequate to fund the target number of grants that scientists and others insist on, the agency has responded by partially funding grants, a practice that brings scientists back to their home administrations, asking how they are going to do the work that the government has told them they ought to do and administrations are under pressure to provide extra money.

It also puts pressure on -- I think we will discuss in a moment -- puts additional pressure on indirect cost rates as a way of funding additional direct costs for the grants that are made.

MR. ANDERSON: Rick, do you have anything --

MR. JERUE: I agree with Bob.

MR. ANDERSON: In January, Representative Dingell requested an investigation of indirect cost rates, apparently to determine whether the money is being spent wisely and properly and whether the rates are reasonable. In addition, the Department of Agriculture has limited indirect cost recovery to I believe it is 15 percent. Is that right?

MR. ROSENZWEIG: 14.

MR. ANDERSON: 14 percent. It seems to me these actions are a signal, but do you see these actions as a signal that the government is trying to leverage its market position as a primary contractor in basic research to get more bang for the dollar?

MR. ROSENZWEIG: Let me back up a step or two before answering that question directly. The short answer to the question is probably yes, but let me back up a step or two and go through some of the background.

The first thing to understand is that university research is a bargain for the government. It is a bargain for industry for that matter. I have a son-in-law, who is in the venture capital business in California and his company makes small research grants to universities and to non-profit research corporations, seed money for new technology. And he was quite surprised, he told me, to find how much more they got for their money from universities than they get from places like SRI or comparable organizations.

The reasons are quite simple. The indirect cost rates at universities are much lower and you get a lot of very good cheap labor in the form of graduate students at universities. So, they are delighted with the business they do at universities, as the government ought to be delighted with the business it does at universities. The reason why the government is from time to time less than delighted has to do with the budget pressures here in Washington rather than what is actually happening out on the campuses.

Now, the current interest in indirect costs has two sources, I guess. One is the budget, and I will come to that in a moment, and the second, the more glamorous, if you will, certainly the more titillating, is what has been happening out at Stanford and what John Dingell has been doing with what has been happening out at Stanford.

The important thing about what has been happening out at Stanford is that there is both more and less than meets the eye out there. Virtually everything that you have read in the newspapers about developments at Stanford, about disclosures of practices at Stanford with respect cost recovery, virtually everything that you have read in the newspapers has absolutely no relevance to policy at all. It has to do with practice. It has to do with some -- with different ways of accounting, but really raises very few fundamental questions about, or even important questions about the system.

There are important questions about the system that haven't made the newspapers that are raised by Stanford's experience and they have to do primarily with the legitimacy of the use of memoranda of understanding as a way of reaching agreements with the government on various aspects of recovery. Those will be negotiated out. How they will come out, I don't know, but that is in the process of happening.

What is important about what is happening at Stanford is the -- and the main danger of it is that the hearing that Congressman Dingell is apparently going to hold on the 15th of February an the newspaper publicity will contribute to an atmosphere in which those who challenge the system primarily for budgetary reasons will have what can be made to look like structural reasons for taking the actions they want to take.

The actions they want to take are to lower recovery and the reason they want to lower recovery is because they feel they can get more research bang for the buck by paying more money into the direct cost lines of research and less money into the indirect cost lines of research. We argue, not surprisingly, that there are costs and there are costs and one cost is the same as another cost. They are all costs of research. You just account for them differently because it is more convenient to do it one way than another way and we will continue to have those arguments.

It could be recalled that all of the attacks on the indirect cost system of the 1980s came out of budgetary arguments. They came out of a desire either on the part of NIH or on the part of OMB or both -- NIH will tell you it was OMB's fault. OMB will tell you it was NIH's fault. Whosever fault it was, it came out of a desire to save money in order to spend more on the direct costs of research.

We are, as I say, resisting that. Our answer to all of that is found in the recommendations of the Pings Report, so named because it came out of a committee chaired by Neal Pings from the University of Southern California, a provost there.

Fred Ford, who is here, and Bill Massy were both involved with that committee. We are now in the process of negotiating those recommendations at OMB. They meet, I think -- all of the questions that have been raised recently about indirect cost policy are met satisfactorily and, indeed, quite soundly by the recommendations of that report. And if anybody is interested, we can talk about it later.

MR. ANDERSON: As we are being squeezed on the indirect cost recovery side -- the institutions feel that they are being squeezed or potentially squeezed, the Administration is proposing to eliminate funding for NSF academic research facility modernization. Is there any really serious hope for facilities support from the Federal Government? There is a little bit in there. I forget what section, but --

MR. ROSENZWEIG: Yes. Well, at the same time that it zeroed out the NSF facilities program, which had had two years of $20 million appropriation each year, a new -- it is either 20 or 25 million dollar facilities program was put into the Department of Agriculture budget, apparently in an attempt to head off making the whole Department of Agriculture budget a huge pork barrel, which it is in the process of becoming in recent years. Twenty-five million dollars, you need to understand, is -- well, I will come to that in a moment.

I don't know what to make of that. The government spends a lot of money on facilities. The question is how it wants to spend it. The indirect cost rate has become an instrument for the financing of space and costs related to space. I am told that in the last -- in the current fiscal year, resulting from the last Congress's actions, that something close to a half a billion dollars was appropriated for facilities projects through the pork barrel route. The Chronicle of Higher Education is coming out with that story either this week or next week.

So, the question is not whether there is money available to finance facilities. The question is whether that money is going to be organized programmatically and appropriated and administered in such a way that it will produce the results that sound public policy ought to want from it. The evidence so far is that the answer to that question is "no," it is not going to happen that way.

So, I think that while the NSF program may be salvaged for another year or two at a relatively tiny appropriation in terms of the magnitude of the problem, it is not going to make a significant contribution to the solution of the problem and unless there is a political will and a way can be found to mobilize the money that is now being spent in other ways, then we are not going to see a major attack on the facilities deficit or any other infrastructure problem in higher education for that matter.

MR. ANDERSON: Can you say anything about our allies and/or potential allies in industry in helping us in mobilizing support for higher education in science?

MR. ROSENZWEIG: Yes. I have worked a lot with CORTEC(?) in recent years. CORTEC, you probably all know, is Council on Research and Technology. It is a group of, oh, 30, 40, 50, 60 corporations and a larger number of universities that lobbies for and it is explicitly a lobbying group -- it lobbies for appropriations and programs designed to enhance American competitiveness. It grew out of a -- and that tells you something about the nature of the organization -- it grew out of a predecessor organization that was formed explicitly to lobby for the research and development tax credit. It has continued to have a major tax agenda, trying to get the R&D tax credit permanently authorized and also another tax issue, R&D tax issue, that affects industry entirely.

The R&D tax credit is basically an industry issue, rather than a university issue, for that matter. A few years ago, CORTEC picked up the facilities problem and was instrumental, I think, in helping to get the NSF program authorized and then to get an appropriation for it. This year it will be -- its main agenda on the education side is highly trained scientific manpower and it is working to produce appropriations in the -- and where necessary, authorizations in the major research supporting agencies for a program that the Administration was apparently going to put forward out of recommendations from a FCCSETT(?)

committee, but didn't at the last minute, apparently at the last minute, put forward, and that is fellowships and traineeships in the Department of Defense, additional programs in NSF, Department of Energy, NASA and so on, predicated on the proposition that both industry and universities will over the next decade, decade and a half, need more highly trained people trained to the Ph.D. level, scientists and engineers than the system is likely to produce and that the time to do something about that is now and not a decade from now when it is too late to start.

So, I think it remains a useful organization, a little less zip than it had a few years ago, I guess, but still doing some useful things.

MR. ANDERSON: You have mentioned competitiveness several times. Much of the interest, increased interest, it seems to me, in academic science arises from policymakers and legislators expectation that more science, more science research on the nation's campuses will help reinvigorate our economy. How realistic are these expectations and is there any danger of a mismatch between expectations of what higher education can do for the economy and what will really happen?

MR. ROSENZWEIG: That is an interesting question and an important and difficult one. In the broadest sense, there is no question but what progress in science and technology is essential to economic development in the modern world. What is less clear is that those nations that engage in science and technology at the highest level will necessarily reap the benefits in economic terms.

There is a lot of history that suggests that they don't. The English, after all, were for much of the 19th Century preeminent in many fields of science and we came along and eventually ate their lunch. Just as we were -- economically, just as we have been in the middle of this century and the Japanese have come along with basically no science base at all and translated available science into excellent technology and excellent manufacturing and marketing and product development.

So, there is no necessary connection between what happens in the laboratory and what eventually finds its way into the stream of commerce and becomes economic value for the society. Those links have to be made and whether we have made those links well enough or not, I think, still is highly questionable. If you want economic development in this country over the short term, there are public policies that are more likely to produce it than spending more money on research.

Fiscal and financial policies have a much closer relationship to what happens in the economy over any short term than does science policy. However, it is a foolish nation, indeed, that would give up the advantage, one advantage that it clearly has and clearly the advantage that we have is still a preeminent position in virtually every field of science and, therefore, the opportunity to have the first crack at translating science into useful technology and translating technology into economically valuable products. If we are not able to do that, somebody else will do it, but it will be our fault not their fault and as long as we keep our eyes on what needs to be done, I think that the investments in science that we are now making ought to be repaid many times over in the future.

MR. ANDERSON: Thank you.

Let's move now to the states. Recessions not only affect the budgets of families but they affect the budgets of the states. The current one is obviously leaving many more states with more demands on its resources than can be met.

Dave, in what promises to be a very tough competition for funds, how is higher education going to fare?

MR. LONGANECKER: Well, I think it is going to be very difficult for higher education in the nineties. I think there are four or five, maybe six things I will mention here that I think will make it difficult.

One is that there are a number -- and those of you who work in public higher education face this on a regular basis, looking at and trying to talk to your legislatures and your governors -- one is that federally-mandated costs are coming in and taking up a larger share of the dollars.

As most of you know, the share of state funds going to higher education in most states has been going down for the last decade. Even though we have fared reasonably well, we have not generally kept our share of total state resources.

In particular, the area of corrections and medical care and social services have been taking an increasing share of the dollars from the states, from those mandated federal costs that are being sent down to the states.

A second factor is that there are other not really federally-mandated increases, but there are other increasing demands on those state resources, simply the infrastructure of the states. The highways are falling apart and the states are having to pick up more of that.

Prisons, a lot of the correctional costs are being mandated, but at least the state in which I currently work, much of the increases in prison costs are a function of the demands of the populace, which wants longer prison terms and fewer criminals on the street. The demands for K through 12 and particularly preschool are those increasing demands, just from other sources that the state traditionally has not funded, at least funded very richly.

Then in addition to what you wouldn't called federally-mandated costs, there is a shift in responsibility from the Federal Government to the state in some other areas. I think higher education is a very strong example of that. Certainly, within higher education today if you really believe in choice in higher education, that is an issue the state is having to fund. The Federal Government is really not providing that more. And I would argue that even in the area of access, basic access to higher education, it is the states that are funding that much more significantly than the Federal Government has. And that shift has occurred to the states, where they have been willing to accept that.

I think a really serious concern, as I look at the polls, is that by and large, although -- by and large we have done reasonably well in the last ten years and if you look at the polls, legislatures and governors are more supportive of higher education and supporting higher education than the populace is.

A recent poll showed that there is a lot of support for education but if you break that down between K-12 and post secondary education, higher education is well thought of, but the idea of providing additional funding for it is not highly thought of. I think that is serious because as soon as the legislators and the governor figure that out, that is not necessarily a strong recipe for success.

I think another very serious issue for us is our credibility and to answer the question that Dick asked all of us to sort of address about how well we think people think we manage our enterprise, particularly in public higher education, I do not think that legislators and governors, by and large, particularly governors think we manage well. Speaking from what I think governors believe, having worked for a few of those, I think there are four different factors that weigh into their decision.

The first is that can you imagine being a CEO of a major corporation and having virtually no control over the biggest component or the second biggest component of your costs or at least feeling as though you don't. And that is how many governors feel in their states. Higher education, in particular, generally both K-12 and higher education are to a great extent beyond the control of the governor or at least they often feel it is.

It is really not but they certainly don't feel they have the same control they have over other aspects of state government. And they generally represent somewhere -- those two activities -- somewhere between 50 and 75 percent of a state's budget. So, there is that feeling of lack of control.

There is a bit of arrogance in higher education and certainly amongst our faculty and that gets carried over and is often perceived as just what it is by legislators. There is an image we have. We have generally built our buildings to be aesthetically fairly decent spots. So, they look good compared to state hospitals or sheds for the highway department or whatever you have. So, we tend to look as though we are wealthy. Our faculty salaries are higher than almost any other employees in public service, even though they may be relatively low compared to what the faculty deserve or relative to other states and other industries where these people could work.

Certainly, our faculty earn more than the person driving the snow plow. And in my state most of the legislators this January spent it in Miami at the Orange Bowl, as guests of the University of Colorado. That was -- not most of them -- I would say a number of very influential ones. I had better be careful because we have some --

Now, that was a good investment, but it also leaves the sense that we have resources that, in fact, come from a source that doesn't help us in our instruction.

So, I think there are those things that leave people with a sense that we are in better shape than we might be. There is also, as all of you know, a limited will and capacity to tax. I think it is more a will in many states than it is a capacity. In this current era, I think we are facing a lack of willingness to go and generate that resource.

So, in general, I think the nineties are going to be a very difficult time for higher education, but I think there is some room for optimism in that environment. I think we have to make the case to the people better than we have because many of them don't believe higher education is in that much trouble.

They look at what we charge. They often confuse what is charged at the most expensive institutions in higher education with what is charged in higher education over all. They very often confuse the price that we charge with the cost of providing the service, which in public higher education is obviously quite a bit different and they very often just don't perceive that there is a problem.

I think we have to make the case with demonstrated accountability, not just the rhetoric we have used in the past. I believe here in that regard, outcomes and the demonstration of outcomes are going to be absolutely critical. But I also think, demonstrating that the process itself works is going to be pretty important.

I think there are an increasing number of people who don't believe higher education is working, that we have kind of lost our way, that we don't educate people well, that we work basically for our faculty and not for our students, our consumers. And as that evolves, what some people are calling the education disconnect, I think we have a major problem occurring for us and we are going to need to address that more significantly.

Now, interestingly, I think that could come to help us. In K-12 education, because they have been in a crisis, they seemed to have fared fairly well. Because higher education hasn't been perceived as being in a crisis, people don't think we maybe need attention. So, maybe if we sort of say we are in just as bad a shape, just as bankrupt as K-12, we would have a chance of garnering some additional financial support as we go along.

I think as we move forward one of the keys will be getting the business community to work very actively with us to make the case of the importance of higher education for economic development, but not only that, but for the kind of social fabric of the communities that businesses want to exist within.

So, I think it is going to be awfully difficult, but I don't think it is -- I think there are some possibilities for us.

MR. ANDERSON: Of all the financial problems facing public higher education, what is going to be, in your view, the toughest to change?

MR. LONGANECKER: I think probably the toughest task ahead is how we convince -- in public higher education, is how we convince legislators and governors to continue their support, at the same time that we admit we have problems and need to reform. We look two-faced when we do that and, indeed, we are and have to be.

The type of job that I work in, the coordinating commissions and boards around the country really do have kind of a schizophrenic existence. We are on one hand expected to be the spokesman for higher education in the state. On the other hand, we are supposed to be the major critic of higher education and major avenue for reform. That can make us sound a bit duplicitous.

So, how do we get away with it? Well, I think we have to talk about some funding strategies that clearly link funding with performance, some true accountability. I think that is going to involve providing much better information than we have been in the past.

To a great extent, until about 1980, I think higher education received this funding because it was a good thing to fund, but for the last decade, we have had to make our case better and I don't think we have done that in all cases. I think that is going to mean additional reports, which will mean some additional administrative costs, no doubt. I think it is going to mean the things that you are starting to see in some of the states' scorecards on higher education, report cards, if you will.

Some of that information is going to be used very poorly and it is going to be misused, but, nonetheless, I think we are going to have to continue to demonstrate why we deserve a substantial share of the money that the states are providing.

MR. ANDERSON: For some number of decades, many economists have been calling for a sharp increase in tuition at public institutions, with at least a significant amount of the savings being diverted to student aid. Now, as the state budgets are becoming more and more squeezed, these economists are seeing surprising allies among the leading public universities as they look for tuition as some relief from their budget problems.

What is the future of low tuition?

MR. LONGANECKER: Well, I think that will depend on from state to state, but I don't think there is a strong future for low tuitions. I think, first, that that argument will pick up as we move along.

Now, it is very interesting, at the same time I am saying that, at least in the last few years, the Federal Government has been arguing that we should maintain low price, kind of, I think, confusing cost and price in public higher education.

But, in fact, I think as we look at the constraints on higher education and particularly looking at the hope that the demand actually increases, that a larger share of our population will continue, particularly minority and disadvantaged will start to participate more actively in higher education and a need, particularly at the two-year level, both community college, liberal arts and occupational education, to increase what we are doing there, that we are going to need additional resources in higher education.

I wouldn't suggest a reduced state commitment, but maintaining that state commitment, accepting that it won't probably increase substantially, recognizing that the demand for the service probably will, means we will have to generate revenue. The only real viable source for that, for the instructional side of the equation is tuition. I think we are going to have to charge higher tuitions, provide more highly targeted use of the public subsidies, using that for financial aid. I think that is almost inevitable if we are to achieve our objectives.

MR. ANDERSON: Dave has already answered my question about how the state legislators and their staffs feel about the management of colleges and universities. If we weren't running late on time, I wanted to ask him how he felt about the Colorado-Missouri game last year, but we are running late.

So, let's open it up to questions from the audience. Charles Kolb had to leave, go back and make domestic policy. I think he probably heard some good ideas here that he is anxious to implement.

Anybody? Yes, please. Step up to the microphone and identify yourself.

MR. FORD: Fred Ford from Purdue University.

My question is addressed to Rick Jerue and his comment about the attitude of Congress about the management of universities. I suspect he is pretty much on target, that, indeed, they do hold us in fairly low esteem lately. I think that is a severe change from the good old days when universities were held on a pedestal. Maybe I am biased, but I think it may be as the result of drawing conclusions from a relatively few numbers of instances, like the Stanford case, that is currently in the news.

Most universities don't have yachts in their indirect cost rates. I wondered if you could give us some pointers and suggestions as to how we could go about winning back the support, if you will, for those institutions that try hard to be well-managed.

MR. JERUE: I think Congress's impression is based almost -- well, to a large extent on a lack of information and I still think that -- there are only a handful of members of Congress, both the House and the Senate, who follow higher education closely, who have at least a small bit of knowledge about how colleges work. I mean, we held hearings on college costs and the factors that are involved in setting prices and costs back in '87. Only about three of our members attended.

And I do think that the impression is anecdotal, but one member, who has very little information, talks to another member, who has less information and those two then talk to someone else and pretty soon that becomes the consensus.

I think what you should do is basically take the time to explain what you are and what you are about and when you see something like the Stanford situation, you know, whether there is truth on either side of the issue, take time to explain what you do in that area to your congressional delegation. Take time to -- I mean, I think one of the interesting things and an easy thing to do would be when institutions are setting tuition policy for the coming year, explain it and explain why to the members of Congress if they don't do it, because those are the ones who are going to be hearing from constituents. Those are the people who are going to be written to about the high cost of college or about some issues that they consider to be instances of mismanagement.

But also recognize that there are some fundamental and legitimate questions that really go to the heart of management. I mean, intercollegiate athletics is the example. David touched upon it a little bit, but members of Congress like to read the sports page and, again, they see anecdotes of mismanagement of intercollegiate athletics, of abuses there that they cannot understand and they translate that as being applied to the entire enterprise. So, I think explaining yourself, dealing -- I think what the presidents have done with the NCAA and some of the reforms that have been made in the last couple -- certainly in the last NCAA conference were commendable and will go a long way to restoring confidence.

But a lot of it is lack of information and lack of understanding of how you operate and who you are. And your, in the past, inability to explain that very well.

MR. ANDERSON: Bob, did you want to answer that?

MR. ROSENZWEIG: Yes, I would like to say a word on that subject. I think that management in this country, public and private management alike, have fallen into low repute in the last decade or so, for reasons that I think are generally familiar to us. And colleges and universities have shared in that, whether justly or not. They certainly, I think, suffer some of the same abuse that other kinds of management have gotten in this country, but the question I find myself asking more and more often lately is compared to what? It is kind of a defensive question maybe, but sometimes you get something revealing out of it.

I think if you compare the management of the colleges and universities in this country over the last third of a century, say, to the management of, what, the automobile industry in this country, I think we come out pretty well. The automobile industry, which was the greatest industry in probably the history of the world in terms of manufacturing power, has been driven steadily into the ground by managers who at the same time were rewarding themselves ever more richly for the job they were failing to do; whereas, the university system in this country started about a third of a century ago with a rather mixed and frequently indifferent quality and has built itself up into the -- both in size and in intellectual power into the leading education industry in the world.

That is not a bad record. I don't see anything to be apologetic about in that. What has happened is that there is a real confusion about the meaning of high tuitions and rising indirect cost rates. It is assumed that those are signs of inefficiency. Those who are primarily responsible for making the assumption are parties -- strongly parties at interest.

In the case of tuition, it is largely parents of students and prospective students. In the case of indirect cost rates, it is largely faculty. There are a lot of parents of students and prospective students and faculty who are articulate and always willing to make their views known. So, they disproportionately affect, I think, the public reputation of higher education management.

But I think the record is a good one and that it needs to be explained better and advertised better than it has been.

MR. ANDERSON: I would like to take an opportunity here -- we have heard a lot about the Stanford yacht and I think the details of it are not so lurid as they would seem. I am wondering if Bill or someone from Stanford wants to talk a little bit -- I mean, this is at least one forum in higher education where we can --

MR. MASSY: No.

(Laughter.)

Since challenged, though, I think I should say a few words. I am a sailor and I am in the Stanford administration and the biggest problem -- I mean, the biggest regret -- actually the second biggest regret -- the first one being that the whole thing happened, but the second biggest regret is that I have never even set eyes on the darn thing.

This was a gift to the Stanford sailing program.

It went into a pool by a simple accounting mistake, a pool that has many thousands of items in it. The list of items is a stack of computer printout of about seven inches, that has 20 items per page. You can imagine how many items are in a fanfold computer list seven inches high. Didn't get caught. And that cost, by the way, is a perfectly allowable cost under A21. Everybody glazes at that, but the problem is because it was put in the wrong pool, there was an accounting inconsistency between the numerator and the denominator of the allocation procedure.

And it was dead wrong. It was a plain out and out mistake and somebody didn't catch it and somebody darn well should have. And from now on, we will have a system that does a better job of checking those things.

As far as some of the other items that have been in the papers, they, too -- the materials in the president's house, for example, that is a furnished house. It is a condition of employment for the president, that he lives in a furnished house. The amount of dollars at stake are very small. A21 makes it very clear and, believe me, I have had occasion to go back and reread that section of A21 recently -- A21 makes it perfectly clear that what is necessary for institutional purposes, if it is reasonable for an institutional purpose, it is acceptable, appropriate and allowable as reasonable and necessary for indirect cost pools.

Those costs were judged by the proper people in the system to be reasonable and necessary as part of this historical landmark, this furnished house, and the dollars are trivial. It is not trivial politically. A21, I think, gives some misleading guidance. If you want some advice, don't rely on that language in A21. Make the political judgment about how it will feel and how it will look and adopt a higher standard on costs like that.

But the fact of the matter is those costs are perfectly reasonable and allowable. We trust that all of this will go by. There will be a hearing. We will make our case. There will be further newspaper and television accounts in the days following, but the real task for higher education is to address the question of how research is to be funded, how this wonderful enterprise produces results that are the wonder of the world, can continue to do its thing, to be productive. That is where we all ought to be focusing.

One last piece of advice for you all is do watch -- you know, do look very hard at your accounting because I believe that there is nothing we are doing at Stanford that is not shared in one way or another by every institution in this room and there but for the grace of God go you. Please, while you have time, take care of it.

MR. ADELMAN: Cliff Adelman from the Office of Research.

Ultimately, this question is going to fall on Pat because he said something that was rather staggering, for those of you who were here last night. It sent me back against the wall listening to everybody else who was up here and recalling the conversations that Sal and Jeff had had a couple of years ago, as they designed this conference and what happened and how it is emerging here.

Pat said something -- he said that the perception of bond buyers in the marketplace is that research quality university is slipping and that that translates to them into what they are willing to fund in the bond market.

Now, as soon as he said that, I said, well, that is a customer. That is one kind of customer of support and I am listening to Rick say there is another kind of customer from the congressional point of view. That brings us back to the management issues last night. He was talking about Congress wanting to see persistence. Who is persisting? It is the student that is persisting and presumable the funding is for the student.

When you get over to thinking about what Charles raised, he said the Administration is thinking about, well, maybe we ought to have national goals for higher education. He said maybe value added. Value added to whom or to what?

And it is the student again that that is focused on.

When Bob was commenting on the nature of research enterprise itself, he said that history shows us that merely -- a tremendous investment in science and technology does not necessarily pay off for a nation but an investment in the people who use the science and technology, who are the consumers and adapters of innovations may, in fact. That is the flip side of your coin. You didn't say that directly, but, again, there is a customer issue that is across the board.

Whether you all agree with it or not, against that we have Pat's statement that said there is an equation between the perceived quality of the research and the willingness of the marketplace to support dollars for this. Now, there is evidence of slipping quality of research. We won't get into it today. It is not, you know, so much the glory of the world as people think it is. I mean, we tend to inflate ourselves a little bit to much with that.

But, Pat, if I can return to you, if that is the case, if, in fact, it is the research quality that determines the bond quality, so to speak, what do you do with the 95 percent of the institutions, who don't do research, but who have a customer, who is very different in mind; namely, the customer Rick talked about and certainly Charles talked about in terms of its implications?

MR. HENNIGAN: If I could just clarify it, I don't believe I said that the investor community was convinced or had the evidence that research quality was slipping. What I was suggesting is that if that were documentable --

MR. ADELMAN: It is.

MR. HENNIGAN: -- that it could be a strategy for unshackling the research institutions from some of the more onerous tax changes that have occurred in '86.

From the investor community -- it is an interesting question to say how do buyers perceive or change their perceptions. You know, a lot of hospital administrators would like to be able to figure that one out. A lot of it has to do with what rating agencies say about hospitals or universities.

Todd Whitestone is here today and his group covers health care and higher ed. It is things they read in the papers. It is conferences. It is, you know, an evolving perception, a feeling of what is going on.

I had, for example, a trader call me up just a day last week and say is something going on in Arizona? A bunch of University of Arizona bonds hit the market. Arizona State hit the market. Tucson hit the market. Nothing from Phoenix. And you go -- you know, it is like -- at times things can happen and you don't know what drives them.

But in the long term perspective, I don't have data that the buyers necessarily perceive. I think that as they see all these competing needs, that it is something that they would look -- you know, try to identify.

MR. ADELMAN: What I think you said was that the financial quality of the institution was equated with the quality of its research -- perceived quality of research -- in the minds of people who are supporting it.

MR. HENNIGAN: In part, it is probably because the buyer -- if that is --

MR. ADELMAN: If that is true, you see, I am following that through to see what the public interest is to who the customer in the university is and in light of what we talked about last night in this place in terms of managing the joint, where the focus is in terms of the customer, the outcomes of higher education. That is partly what Jeffrey is going to point to in his paper.

MR. HENNIGAN: Research kind of grabs headlines and buyers are influenced.

MR. ADELMAN: Well, we know that students in intercollegiate athletics grab headlines, too, you know. That is the point.

MR. ANDERSON: Pat, you would agree that one of the primary drivers of ratings is the response of students to institutions.

MR. HENNIGAN: If you are looking at the demand, oh, yes, absolutely. Showing up.

MR. ANDERSON: That is very, very important in the ratings.

MR. ADELMAN: Okay.

MR. ANDERSON: Next question? Mary Jo.

MS. MAYDEW: I am Mary Jo Maydew. I am the treasurer of Mount Holyoke College.

Rick, my question is for you as well and it has to do with the implications for all of us as we try to administer some of the changing regulations and statutes that are coming out of the federal side particularly.

I guess my question is how can we do a better job of talking with you before some of these changes are made so that we are sure that you understand and so that we have made the case for what some of the administrative ramifications are going to be to things like the direct provision of loans?

MR. JERUE: You have to make sure you have good people in Washington representing you. You know, we do rely on the associations in Washington to accurately represent the interests and to detail all of the potential problems that might exist. We are in pretty close contact with them.

My sense is that the institutions themselves, I think, probably have to provide a little bit more information to their associations about the impact so that they can adequately and accurately reflect those interests to us.

You know, coming from Massachusetts, you have a unique opportunity with the chairman of the Senate Labor and Human Resources Committee to at least make him aware of some of these changes. These changes are in the works for quite some time. But, yet, I am never -- I never cease to be amazed by how something can be in the works and proposed for months and months and until it is implemented, we never hear from institutions about the impact of what is happening.

A good example is some of the recent changes in the budget reconciliation bill, having to do with testing of students. That proposal had been in the public domain for a couple of years before it was finally implemented and, yet, we never heard from the schools who were affected about the problem that that particular matter would create.

So, if you have got a legislator who is from your state, who is going to be involved in drafting of legislation, stay intimately in touch with him. And if you don't, work through your associations and make them aware and demand that they keep you informed of potential changes and get your response and feedback so that they can communicate that to the people on the Hill.

MS. MAYDEW: May I ask a follow-up question?

MR. ANDERSON: Sure.

MS. MAYDEW: This may b an "all of the above" kind of answer, but I was curious as to whether in your experience the Congress is more interested in general in hearing from higher education through its agency representatives, whether hearing directly from colleges and universities is sometimes more persuasive or whether, in fact, there is no real dichotomy.

MR. JERUE: No, I think there is a dichotomy. I think the committees and the people, for instance, in my job, with a committee, when I was staff director, I would listen to two groups. I would listen to the Washington groups and people from Montana because my boss was from -- is still from Montana and those folks had a particular welcome in the office and a major impact on policy development.

I think that you have got to make sure that your member of Congress knows of your particular interests. People who are on our committee will listen to their own state people. Those who are working for the committee and the committee staff will listen to people like Bob and Caspa and people who they use as a proxy for the institutions throughout the country.

MS. MAYDEW: Thank you.

MR. SONENSTEIN: Burt Sonenstein, president of United Educators Insurance.

I would like to come back to the issue of perception of affordability and value. It seems to me that the major problem we have going forward is not dissimilar from the problem of health care providers, that if we think that a day in the hospital is not a good value or the cost of a major operation is not a good value, how do we deal in the academic setting with the concern about the value to students of the educational experience?

My sense is that by slowing down the growth of tuition, we are only dealing with a small part of the problem because it will still be perceived as a very expensive experience for the value received. What can we do as financial administrators to address either the perception or the reality of what value is provided to the student for the dollars required to take a course or to attend our universities for a year?

What specific things -- I think we were probing at that last night with questions about what we can do to address the value on the academic side of the services delivered to students. But I would be curious as to reactions to how we deal with the perception or the reality of the problem of value.

MR. ANDERSON: I will give one reaction to that and I put Stanford on the hot seat before, but I think on the other side, they have captured the headlines for the good in their cost-cutting campaign and if we see more of that, there will be a perception that we are doing something and we are trying to control costs. And as, I think, you indicated, perception is equally as important as the reality.

MR. LONGANECKER: If I could just say something -- I think the real answer is to bring the perception and the reality together so that we are advertising -- we do have truth in advertising and I would suggest that part of the answer there, I think, is a serious discussion about reform of undergraduate education and restructuring in some ways and looking at total quality management activities that are underway in the private sector and trying to figure out -- you know, it is kind of silly. You look at a small state college and it is organized pretty much the same way as a large research university with about the same number of levels of management.

Maybe the model needs some rethinking as well. So, I think there are some things we can do to essentially make it better.

MR. JERUE: I couldn't agree more with what David said. I had a five year stint in One Dupont Circle, working for a group of institutions that I think began to lose sight of what they did best and they tried to be everything to everyone else -- I mean, everything to everybody. They tried to be something they weren't. And because of that, I don't think they focused on those things that they did very, very well and begin to really stress those things.

I think institutions have to go through a period of self-examination, which most of them are doing now, to identify those things that they do well and get rid of those things that they don't do particularly well and change their missions.

MR. CORRALLO: Just a quick follow-up.

As I sat here last night and reading some of the materials, one of the things that struck me -- and it is no secret -- I think a university, a college, is a cost center, a series of cost centers; that is, you have a research function, you have an academic function, support function, public service. Many times these are separate operations and many colleges, in fact, the colleges themselves are separate operations.

We talk generically about management and, yet, the reality is, depending on what you are looking at, you will see different things. The bond, perhaps, purchaser is going to look at certain aspects; the academic person another and I think somewhere in this process of looking at efficiency, that has to be considered and that we can say NACUBO has done a heck of a job with their cost saving program over the years and probably in that sector, one would look at it very

-- with very positive eyes.

Yet, if you look at the academic side, as discussed last night, we see a lot of different things. So, somewhere in this process, it seems to me, that has to be clarified. So, when we are talking about these things, we ought to be somehow -- that agenda ought to recognize those more, I think, directly than they do.

It is really more a comment than a question.

MR. ANDERSON: Thank you.

One last question. There is someone in the back, who has been trying to get up to the microphone for a bit here.

MR. DAVIS: Ed Davis from the Texas A&M system.

We are uniquely aware of the demographic shifts in Texas and what we prospectively see in particularly the next decade with regard to demand from the most difficult sector of meeting that demand because of the students' inability to meet tuition and costs.

Historically, looking, and after World War II, where we really built the middle class by allowing those who had given a commitment to the country to be rewarded through the GI Bill, what prospectively is the possibility of a policy on a national level that would look at some sort of universal service in return for the economic commitment to allow students to complete there education from areas where they can't afford it?

MR. JERUE: A form of universal service or at least an outgrowth of that concept was proposed in the last Congress by Senator Sam Nunn and Congressman Dave McCurdy. It ran into considerable resistance from the members of both the House and Senate committees dealing with education policy, primarily because of the belief that the proposal that had been put forth by those two gentlemen would have based federal student aid on community service and since federal student aid is need-based, the feeling was the only folks who would do community service or universal service were those who were poor and it would not apply universally.

I don't see a true universal service, mandatory universal service taking place in the next few years and I think, unfortunately, that the debate of tying student aid or college financing to some kind of service took place last Congress was resolved maybe not satisfactorily, but was resolved and probably will not come back for quite some time, at least until after the presidential elections.

If somebody in the presidential elections makes it an issue, then I think that the next Congress might begin to consider it again, but not for quite some time.

MR. ANDERSON: Okay. Thank you very much and thank you to each of the panelists.

(Applause.)

(Whereupon, at 10:20 a.m., the session was adjourned.)

(Recess.)

TUITION PRICING

MR. ROGERS: We are going to have a session on tuition pricing here. I think we should get started. We will hopefully get our technical expertise worked out by the time we get to that.

We have three speakers. We are going to do a little different format here in that each of the speakers will present their paper first and then we will come back and take questions and have a discussion. Hopefully, we will have time to do that. They have each planned to speak about 15 minutes and we will have 15 to 30 minutes at the end for some discussion.

It is interesting, following the session we just had, where we talked about a whole series of financial issues really other than tuition and the price increase question, which is really the question we are going to focus on today.

If I could just take one second and tell you a sense of the context within which we are talking about tuition, we are talking about tuition here following a decade of very large increases, real increases in tuition and we have some good data on the extent of those.

We are also talking about that having occurred in a period of time when most other sources of income at universities and colleges was increasing. Research funding was increasing. Real investment returns were high, as we heard from one of our previous speakers. There was broad access to tax exempt financing. There were many and fairly successful philanthropic capital campaigns and it was not a time of certainly decline in enrollment. It wasn't a time of major increases in enrollment.

So, in what might be described as fairly benevolent financial times, we had fairly large tuition increases. And I think one of the senses is that that climate is not the climate we are in today or the climate that is likely to continue.

So, we come to the question of how we deal with tuition increases, whether or not they should be constrained or what in a time that is really much less hospitable to the financial circumstances of these institutions. That in some ways makes the question more relevant. It also makes it a little more poignant in trying to deal with it because most of our experience, I think, is in a very different climate, at least recently.

We have three speakers today to talk about these questions of tuition. They are the questions of how much are people willing to pay, what do we get for what people pay and what really are the budget impacts of tuition increases or discounting and financial aid sort of to a net tuition price.

Our first speaker is going to be Rita Kirshstein. Rita will be speaking about research she has been doing at Pelavin Associates for the Department of Education. Rita is a senior analyst at Pelavin and recently completed the study, "Escalating the Costs of Higher Education," which is in the full set of materials that you received. I recommend that to you for reading. It is a very fascinating study with a number of new perspectives, I think, on some old questions.

Rita has written on a number of other post secondary education issues, including the impact of student financial aid on college persistence, issues in student loan defaults, faculty utilization, post secondary education programs for disadvantaged students. She has been both a student and a professor in public and private higher education.

Our second speaker will be Jeffrey Gilmore -- and I am going to introduce the three of them now and then they will just proceed. Jeff will be making a presentation on his research in terms of relationships between tuition and institutional quality and student outcomes.

Jeff is a research associate in the U.S.

Department of Education's Office of Educational Research and Improvement. He has more than 15 years of experience in higher education as an administrator and a researcher and in the OERI office, he is responsible for post secondary education research centers, grants and contracts.

Jeff has graduate degrees in college student personnel services and public administration and received a Ph.D. in higher education from Penn State.

Our third speaker is Sean Rush. Sean is a partner at Coopers & Lybrand in the Consulting Services. Sean will be presenting a paper on tuition discounting. Sean is the partner in Coopers & Lybrand, as I said, Higher Education Consulting Practice and has written extensively on the issues of tuition. He has 16 years of administrative consulting and policy level experience with colleges and universities, with state governments, with health care institutions and other service sector institutions.

Sean is a frequent speaker at various professional seminars and meetings and is also a member of the Massachusetts Public Health Council. Sean graduated from Boston College, where he holds also an MBA.

So, these will be our three speakers and we will now proceed through each of them and then we would ask that you keep your questions until we finish all three presentations and, hopefully, we will have a good discussion at the end.

Thank you.

MS. KIRSHSTEIN: Thank you.

Just as a little bit of background to the paper I will present, it has probably been, oh, at least three or four years that I have been working on issues of higher education tuitions and not only this report that is in your packet, "Escalating Cost of Higher Education," there are several other reports and papers that were background to this that looked at the whole gamut of issues, trends and costs. We looked at data in every way I could possibly conceive of and then some.

In some ways, the paper I am presenting today is a real tangent from the three to four years of work that I have done. It doesn't summarize it in any way. The recent report was part of a congressional mandate and it looked at what the cost of higher education actually is and how that has changed in recent years. It looked at different causes of this change in cost and the extent to which these different kinds of costs contributed to the change.

We tried to forecast the future cost of obtaining a higher education, which, as we all know, is not a straightforward or easy task. We looked at the impact of changes in cost on not only institutions, but on families, particularly lower and middle income families. We made some recommendations on how these kinds of costs can be minimized in the future, mostly by looking at what has already been done or what is being tested. And we looked at some state and federal policy options.

Attempting to explain why college tuitions increased so rapidly in the eighties has captured the interest of both journalists and higher education analysts. An endless number of newspaper, magazine articles have offered all sorts of reasons why tuitions accelerated exceeding inflation in the past decade.

Similarly, many different studies sponsored by a diverse group of associations and agencies have been written to address this topic. These different articles and reports have put forth a number of different explanations for escalating tuitions, but most of these explanations relate tuition increases to increases in the price of other goods and services. The underlying assumption really is quite simple.

If the price of goods that colleges and universities must pay increases, tuitions must also increase to cover these costs. I will quickly review some of the more commonly proposed explanations that have been put forth.

One is that the prices of goods and services typically purchased by colleges and universities have risen faster than inflation. Total education in general and expenditures increased by almost 20 percent in real terms during the first five years of the 1980s; thus, putting pressure on institutions to raise their tuitions to cover these increased costs. But many argue that the goods and services used by colleges and universities are not those captured by the Consumer Price Index; thus, the seemingly rapid expenditure growth does not necessarily mean that higher education institutions are buying any more or better goods and services than they did in the past.

Another explanation that has been put forth in a lot of these studies is that colleges have been spending money on new types of products and services or purchasing more of them. Technology changes, particularly the rapid growth in computer usage, are typically cited as an example of this argument.

Physical plant repair and maintenance have increased, requiring additional institutional expenditures. Several reports have calculated the cost of repairing or replacing damaged facilities on campuses at billions of dollars; however, data on expenditure trends in the early 1980s do not indicate that colleges and universities increased their expenditures at that time, at least, to improve the situation. This looks like it is going to be a major problem in the years to come.

Faculty compensation costs have risen. This has been documented in report after report. This is one of the largest single expenditures of colleges and universities and faculty salaries increased by about 15 percent in real terms in the 1980s. These increases, though, are also accompanied by a very large growth in benefits in what some have referred to as the aging of the professorate; that is, you have a much higher percentage of senior full professors now than you did earlier and fewer assistant professors and these faculty cost more.

Administrative staffs have expanded. Many reports document tremendous growth, both in the numbers of administrators on college campuses, some of which results from increased federal regulations, but also the salaries paid to these administrators. The administrative expenditures increased in real terms by over 25 percent in the first five years of the 1980s.

Another common explanation, financial aid budgets have grown. The College Board estimates that between '80 and '87, total institutional financial aid grew from 2.8 billion to 4.6 billion in real terms or 66 percent.

Some have tried to argue that institutions have incentives to raise tuition to maximize revenue from federal student aid funds. This is usually leveled by critics of rising tuitions, who say that institutions now can raise their tuitions because they can get more federal aid.

This is generally -- several studies have shown that this is not really the case. There is very little evidence to support this assertion. Institutions have experienced shortfalls from other revenue sources. A decline in revenue from state appropriations for public institutions and a decrease in federal funding for all colleges and universities are often cited as factors placing upward pressure on tuitions.

Changes in enrollments have resulted in increased institutional expenditures. Demographic changes in the composition of post secondary students have increased costs. Part time students, women and older students all increased as a percentage of total enrollments between 1970 and 1985. In addition, many colleges and universities have opened their doors to educationally disadvantaged students.

Educating these different types of students potentially costs more than educating the full time, 18 to 24 year old. This, by the way, is a very interesting issue for post secondary institutions. Another group going on at this same time is looking at demographic changes. A question I am particularly interested in is what does it cost to educate different kinds of students.

Again, having worked with data for three, four years and using very standard kinds of full time equivalent calculations, we know that we have had a major change in the types of students, but we are still making calculations on cost per student in a very similar way that we did, you know, 20 years ago.

All of these articles and reports that look at tuition increases in an attempt to explain them basically share the very same conclusion, which is there is no single explanation for the recent rise in college prices, but rather a number of different factors are at work. My own study also reaches this conclusion.

At one level it is not surprising that so many different studies fail to reach a more definitive conclusion, although such a generalization often seems like a copout. If you consider that there are over 3,000 higher education institutions in this country, you realize that it would be very difficult to come up with one or two explanations.

Colleges and universities differ from one another on a number of characteristics, including their size, their location, their sector, their mission, course offerings and so forth and so on. To assume that any one or two of these explanations could explain increasing tuitions would, indeed, be naive.

At another level, I find it curious that so much of the discussion of college tuitions is focused so exclusively on what I have come to label the budget-oriented explanations of tuition increases. All of the explanations, which I have just summarized essentially center on either increases in different expenditures, which colleges and universities faced in the 1980s, or decreases in revenues, which institutions have come to expect.

After years of examining trends in college tuitions, along with concurrent expenditure and revenue patterns, I really began to feel that a piece of the puzzle was missing. Expenditure increases and revenue shortfalls do not tell the whole story of why tuitions escalated as they did throughout the 1980s.

Tuitions can also be shaped by the values students and their parents place on higher education and their willingness to pay for it. In other words, expenditure increases do not in and of themselves necessarily drive tuitions higher, but rather tuitions may be raised as a means to provide colleges and universities with additional revenues to spend.

Tuitions can, thus, drive expenditures if students and their families are willing to pay higher tuitions. I refer to these types of explanations is demand-oriented theories of tuition growth.

Now, in many respects, this is not a new perspective on college tuitions. Howard Bowen in 1980 put forth a similar sentiment in his laws of higher education costs. What is slightly different about the stance that I wish to take is the emphasis on the role that students and their families play in allowing institutions to increase their tuitions. For despite the public outcry in the 1980s -- and I do have to say that a lot of what I am talking to applies much more to the 1980s than it does currently.

Enrollments in institutions of higher education reached an all-time high in 1989, when a record 60 percent of high school graduates in that year enrolled in college in that fall. Furthermore, throughout the 1980s, applications in enrollments to most colleges and universities did not decline.

Indeed, at some of the most expensive institutions, applications increased at a very steady pace. What I suggest is that Americans have traditionally valued education in general and higher education specifically in ways different from citizens in other societies. This faith in education has provided an opportunity for colleges and universities to raise their tuitions without necessarily losing students to any great extent. Similarly, Americans generally believed that there are many benefits to be gained from attending college.

In the remainder of this presentation I will examine some ways in which the demand for higher education could be driving tuition costs. I do want to add at the outset, though, that I don't believe that these so-called demand-oriented explanations explain tuition increases by themselves. Tuition could increase partly because revenue sources decrease or expenditures increase at the same time that students and their families are willing to pay more to attend college.

Demand-oriented explanations do, however, assist us in understanding how there can be simultaneous concern over rising tuitions and a strong belief that higher education may actually be worth the cost.

I might also add that families demand for and willingness to pay for higher education in the 1980s may already be changing. The current recession is affecting the pocketbooks of both families and universities. The era in which universities could increase their tuitions and find students willing to pay may be ending. This does not change the fact, however, that tuitions escalated steadily throughout the 1980s and students basically lined up to pay these increasing costs.

What is interesting is the way that some of my ideas are going to be dovetailing into Jeff's and some of the material that I am presenting now. What I am interested in in this paper is the perceived value of higher education and Jeff is going to look at more or less at the actual value.

As I begin to look a little bit at value and quality, it is mostly coming from the side of how it is perceived because to my mind it is the perceptions that will drive, at least, families' willingness to consider the higher cost. If you look at the history of American public education, in particular, at the elementary and secondary levels and the history of post secondary education in general, I think it shows lots of ways in which Americans have valued education.

We have always looked at schools as problem solvers and many times even, the kinds of problems we have looked at the schools to solve are really educational in nature. Expansion of American post secondary education can be taken as another indicator of this value or importance placed upon schooling.

Between 1950 and 1987, the total number of institutions of higher education increased from 1,850 to almost 3,600. This growth, of course, was accompanied by a very large increase in enrollment.

Several polls also provide direct evidence of the value placed on higher education by the American public. Between 1978 and 1985, for example, the percentage of Americans believing that a college education is very important jumped from 35 percent to 65 percent. A more recent survey of American adults conducted in June of 1990 revealed that a majority of those surveyed believed that big improvements would be made in a number of different areas if more citizens obtained a college education.

Specifically, 75 percent of those interviewed thought that there would be big improvements in science, medicine and technology and 59 percent believed big improvements would result in the U.S.'s ability to compete economically with the rest of the world.

One would expect people to be more willing to pay for services they view as beneficial than they are to purchase goods and services that they did not consider useful.

The widely-held beliefs that higher education is increasingly important and that major improvements in a number of areas would result if more people were college educated suggest a potential willingness not only personal dollars in higher education, but tax dollars as well. Again, results from a poll conducted in 1989 provide some insight into why people have been willing to pay higher and higher tuitions.

Respondents were asked to link what they believe the value of a college education to be to the actual cost of this education. These results I find extremely interesting. Thirty-nine percent of all of those polled indicated that the overall value most college graduates get back in their lifetime is worth more than what they pay to attend college.

Another 35 percent responded that the overall value return is about equal to what is paid. That is almost three-quarters of the American public believe that the investment in a college education is equal to or worth more than what is returned in a lifetime. When these findings are considered, along with the fact that people generally believe that college costs considerably more than it actually does, the impact is even more profound.

The perception that college is worth the investment is supported by several changes in the economy and the work force. The income differential between high school and college graduates has grown. Recent research suggests that the wage benefits of attending college increased sharply in the 1980s, after declining in the 1970s. In the mid-seventies, the income gap between high school and college graduates hovered between 15 and 20 percent. In the 1980s, however, this gap began to widen and by 1986, the income gap from that had grown to 49 percent.

Changes in the work force also necessitate increases in the percentage of the population needing a college education. Jobs which could be obtained 20 years ago without a college diploma either no longer exist or have been altered significantly in content, such that a college education is required.

Thus, the perception, that a college education is important and worth the cost is supported by trends in the economy and work force. However, these general trends do not suggest whether higher tuitions purchase additional value. In many ways, this question is not as central to me as it is to Jeff, as to whether or not there is a perception that higher tuition purchases additional value.

I am getting time hints, so I am going to skip over a few things that I think Jeff will probably cover.

We had lots of examples in the media in the mid to late 1980s of quotes of college presidents and administrators claiming that there was a general perception that people believed that they could get a better education if they paid more. The notion of prestige pricing floated around for quite awhile in '86, '87, '88. I do think that this notion was often misinterpreted, but, nonetheless, it got a lot of play.

Commonly quoted is Brennerman(?) as saying right or wrong, price is a message to the public of what we are. I do nothing for my college if I am a good citizen and raise tuition only 5 percent. There was another popular phrase coined at the same time from a dean at Mount Holyoke, which was the Chevas Regal argument, where basically it said that private colleges have little to gain by keeping their tuitions and fees much below those of competitors when they are likely to be perceived not as a bargain but as a lesser institution.

One study that I find particularly interesting and somewhat unusual in that there are not many that actually ask students and their parents what they as perceive positive quality or value in colleges and universities. Litton and Hall interviewed high school seniors and asked them directly what they think is worth spending money on or what they perceive quality to be.

Some of their findings indicate high admission rates of its graduates who apply to graduate and professional schools, faculty, who spend as much time teaching as on their research, a large variety of courses and programs and advanced laboratory equipment.

There are lots of ways you can interpret these findings, but what I find interesting is that students and their parents do appear to judge quality by attributes that cost money. And, again, you can find lots of indications of college presidents and association people and everybody saying things in the mid-eighties, such as colleges are spending more to provide things that students and their parents want and demand.

I will just mention briefly a paper that should be coming out fairly soon that was written as a background piece to the final cost report, looked at expensive institutions of higher education and it looked at a number of factors associated with attending these schools. And interestingly -- let me just highlight a few of them.

Between '83 and '88, tuitions at these schools increased faster than tuitions at other schools. Total education and general expenditures at the expense of private schools exceeded 21,000 per student in '85, while E&G expenses at the other less expensive private schools were only 11,000. The most expensive schools admit a smaller percentage of their applicant pool. Eighty-two percent of students at expensive schools expected to obtain a graduate degree compared to only 67 percent at other schools and 50 -- other privates -- and 52 percent at publics. That is the perception that students get more out of attending higher priced schools make it worth the cost.

I have some wrap-up comments and some comments about financial aid that I think I will just skip over. It looks like I have taken too much time -- and sort of, I guess, save any of these for questions that you might have at the end.

DR. GILMORE: I am going to try to work from some slides in true education fashion. I have some handouts.

For those of you who have read my paper, I thank you. For those of you who haven't, I can well understand as it is pretty thick. So, I don't blame you at all.

Can you all hear? Is this going to pick up or do I need to talk here? Okay. I will talk from here. I will just hold it, I think.

Rita talked about the demand-oriented theories of tuition and the perceived value of higher education and what people were willing to pay. I was much more interested in trying to come up with some measure of actual value, whether the price that people pay actually resulted in higher quality.

This really isn't so important because all of the tables and everything are in the paper that you have in your packet. Okay.

In the discussions of price and tuition costs and higher education, the focus has been on the price side, why tuitions are going up, how much people are paying. As I mentioned earlier this morning, we felt that that was only one side of the story. It really wasn't so much just a matter of how much things cost, but whether or not what you get out of it was worth what you put into it.

So, my research was aimed at looking at some various measures of quality. Now, this is defined all over the board and we wrestled with this for quite awhile. So, the first thing I did was start with some pretty traditional kinds of measures and if you have the paper in your packet, just going across the top line, I did a correlation between price and various indicators of quality, resources, finances, land value, percent, Ph.D.'s, faculty/student ratios, a whole number of things. It goes on for two pages.

What I found out basically was that price was positively and significantly correlated with 27 of the 29 indicators that we commonly read about and hear about in Barron's Guides and Money magazine and all kinds of real highly intellectual things like that, that people use to judge quality by.

So, that was really good news. Price does seem to be correlated with quality. And you read the paper and go into some of the specifics of that, but there were some surprises. The ones that weren't correlated were faculty/students ratios and the number of remedial programs. Faculty/students ratios is one that we normally think of as being a quality indicator, but it is not related to price.

Now, I thought that -- well, these are correlations, but there probably were some variations within that and I was interested not only just in resources and physical facilities and things and faculty/student ratios, but what did that stuff all translate into in terms of student outcomes.

To me, the best indicator of an institution's quality, at least the sample that I was using -- these are all general baccalaureate institutions. They focus on undergraduate education. They include liberal arts colleges and some of the liberal arts I and II and comprehensive -- small comprehensive universities in the Carnegie classification. They are principally undergraduate institutions. They have a few -- some of them have a few graduate programs. We are not talking about the Harvards and the Stanfords. We are talking about the baccalaureate level.

Anyway, in these institutions what I felt was the best measure of their quality was how much students learn, but we don't have any national data on how much students learn, the value added aspect. So, I tried to take a proxy for this and I figure that students will learn more if they persist longer, that the college's graduation rate would be a proxy for how much their students learn.

So, if students get good grade point averages in their freshman year, persist from the freshman to sophomore year, graduating, then these would be indicators of intellectual growth and learning and that the college was doing its job. I think persistence in education is important and is a quality indicator that many people can buy into.

So, anyway, I lumped freshman GPA, persistence and graduation rates together in a statistical manner and then I plotted them together and this is the plot that comes out. Again, it is clear in the paper. The general trend is really what is more important here. Along the bottom, this is the outcome of educational progress and going this way, up and down, are the price. You can see that the general trend is, indeed, that higher priced institutions perform better in terms of educational progress and that lower priced institutions perform less well.

So, that generally shows that sort of the common accepted idea that you get what you pay for, but within each of these price classes, there is a wide range of difference. This center line is sort of the average normal performance and in between the 8 and $4,000 tuition ranges, you can see that colleges are just all over the place in regards to their performance.

So, I was interested in identifying subgroups within this general mess here. These colleges that are expensive and that do very well and these that are less expensive and don't do so well, I call this the expected pattern. What was really interesting to me were the colleges that were lower cost, but did quite well and the ones that were higher cost and didn't do very well at all.

Those are the counter group institutions that I spent quite a bit of time on looking at. Just as a -- one of the things that I did was I developed a value index where

I took a ratio of these two variables to compute how well an institution did. If the college got a "1," that means that they charged was roughly equivalent to the value that came out of it.

If it was below "1," they were not producing results in keeping with their price. If it was greater than "1," then they were producing results that were better. Now, I did not publish nor will I publish this listing of colleges. So, don't ask me how a particular college might have rated. I wasn't interested in either embarrassing or publicizing individual colleges, but two of them, perhaps, are worth mention.

Rita had mentioned David Brennerman when he was at Kalamazoo and she also mentioned Mount Holyoke, so I thought, well, how did those two colleges come out in all this? And since they didn't do too badly, I will show how they work.

Mount Holyoke is this one right up here. It is one of the most expensive, not the most expensive, but one of the most expensive, but it is the one that has the very best overall performance of the nearly 600 colleges in this group that I studied. Their value index was "1." That is, they are very high priced, but they deliver an equal value to the student.

Kalamazoo was in here. It was in the moderate range of price, a little more expensive than the mean, but it performed better than the mean. And it had a value index of "1" as well. So, perhaps they were right.

So, the good news is that in general you do get what you pay for. The higher cost colleges do provide better facilities, services, faculty/student ratios, libraries, books, student outcomes, graduate school going rates, you name it.

The bad news is is that -- or maybe the good news, depending on your outlook -- is that it pays to shop around, that there are some colleges that are low cost that can still provide you with that Chevas Regal education and there are some high cost colleges that don't quite deliver.

Now, I wanted to see more what might be behind those results and, so, one of your pages is a rather mind-numbing chart that looks like this and that is the four groups that I kind of showed on the plot. The No. 1 group on the left was the low cost, low outcome group. The one on the far right is the high outcome group. The one here, the No. 2 group, this was a low cost, but high performance, which I like to call the stars and this other group, which is high cost but low performance, which I like to call the dogs. You can see why I don't like to publish the list of these colleges.

But not looking at these two, except to note that in the highest cost group, I mean, their endowments and the services and everything else that they do are just head and shoulders above every other college. So, for those families that are willing to pay and Rita seems to indicate that there are quite a number of families that are willing to pay, they do get some pretty good stuff.

These colleges that are low cost are hurting colleges. Now, the two groups in the middle were interesting. The high cost group has a significantly higher tuition rate, statistically significant. They have roughly the same size student body. Their endowments are much lower and their services on all categories are not significantly better than the lower cost colleges.

So, what I saw in here was that these colleges were charging more for their students, but the students, due to the higher costs, were paying a greater share of the total institutional expenditures than were the students at the second group of institutions. I think in here I say this group may spend -- provide 64 percent, as opposed to Group 2, which is 47 percent. This is how much of the total expenditure, the total institutional cost that students must bear.

At the same time, students at these second group of colleges did not get -- I mean, at the third group of colleges, the dogs, do not get the same amount of aid. I mean, they get more aid, but after you subtract the higher cost and the higher aid, they are still left with a larger net cost that they must pay.

Why that may be so, it seemed that, again, that the endowments of these Group 3 institutions just did not provide enough support. So, therefore, most of the expenditures had to come out of tuition dollars.

The other thing that I noticed was a pattern of expenditures. This Group 3 of institutions spent more of their resources on physical plant appearance, buildings and grounds particularly, as opposed to library resources and academic resources expenditures.

It would seem that these institutions, the Group 3 institutions, are going more for appearance and actually it is paying off because their application rate, down here second to the bottom, is 54 as opposed to 44 for the institutions that are really a better value. So not only it appears that not only are the consumers judging the colleges on the basis of their price -- they have a higher price and students think that, therefore, translates into better value, but also since they emphasized their physical appearance over, perhaps, some of the more substantive academic areas, they have application rates that are 10 percentage points higher than the other ones.

So, what the lesson here is, perhaps, charging a higher tuition rate not only will generate you some added revenues in real terms, but it will also convey to the consumers that you are a better institution than perhaps you are. You can't fool everybody all of the time, but if you can get away with it for a few years, it might actually work.

Now, with the Department of Education, I guess I am not supposed to encourage you all to raise your tuition rates, but it seems to be a strategy that some colleges are pursuing. People who have read the paper say that this is because colleges are trying to market their position, trying to go into new markets and positioning themselves and that is fine and I believe them. I don't think any college is out to hurt anybody, but some of these colleges just aren't making it.

That was the whole first part of the paper. How are we doing on time. About out. Okay.

Then real quickly on the second part of the paper, I wanted to see what factors in a very statistical sense, using path analysis affected student persistence, graduation rates the most and some surprising things came out and some not so surprising.

Very quickly, of course, student ability would have a large effect and it did. The number of at risk students would have a negative effect and it did. But the tuition itself, quite apart from student ability, quite apart from the amount that it provided to revenues seemed to have an effect on student persistence, a significant effect.

So, it seemed that students, perhaps faculty, were -- that the very act of paying the tuition probably -- a prior psychological commitment to the institution and the higher the tuition, the greater that psychological commitment seemed to be.

Others things in the paper seemed to indicate that certain kinds of programs were not best for all kinds of students, that those institutions that had lower ability students but had a high number of faculty Ph.D.s and research orientation were not the best for the low ability students. So, echoing some of the comments that we heard earlier, perhaps institutions, again, need to look at what their mission is, who they are trying to serve, the graduate school-bound overachievers or the disadvantaged students that are struggling academically and gear their programs and faculty toward those ends.

We will take questions, I hope, afterwards.

MR. ROGERS: Thanks very much, Jeff.

And our third speaker here will be Sean Rush.

MR. RUSH: Good morning.

What I would like to talk about this morning is a paper that we are about two-thirds of the way through completion. We are working on it with NACUBO and before I begin the presentation, I would like to at least acknowledge, Loren Loomis Hubbell, my colleague, who is sitting in the back of the room and her good cheer and hard work is largely behind the presentation I am about to make.

What I would like to do is at the outset just create a little bit of context. You needn't look at the detail of the slide. This is a slide that Carol Frances prepared a couple of years ago. She is presenting at one of the other concurrent sessions. Just focus on the colors, if you will, for the moment, the pink being increases in tuition prices behind 1980 and 1985 and the aqua or green being increases in various measures of family income during that same period.

What, at least, the colors tell you is during that period the increases in price exceeded that of various measures of family income.

The other factor, again, just as a contextual statement is the fact that there is wide price diversity among colleges and universities in this country. As Rita mentioned earlier, many families overestimate what it will require to attend college. If you look at this graph, you can see the public institutions are skewed off to the left, with private institutions largely represented to the right.

The factor to keep note of in this is that approximately 80 percent of all students in this country attend an institution where the tuition is $2,000 or less. At least that is 1988 dollars. And that while parents and students tend to focus on the higher priced institutions and that is what gets ballyhooed in the media each year, less than one-half of 1 percent of all students attend an institution where the total cost of attendance is more than $17,000.

Looking at changes in financial aid, there has been a shift from federally-funded grant programs over the last 20 years or so. The yellow line plotting those changes over time, the first year being 1970, the last year on this schedule being 1987. And you can also in the pink a rapid increase in the amount of institutionally-funded grant aid that is provided to students to meet need over that time.

Basically what this is saying is that as tuition growth has exceeded the ability to pay, as well as the various grant programs, the institutions have stepped into the breech to meet that need.

Looking at this same phenomenon, you can see, looking at the various federally-funded programs, a nominal decline of 10 percent and a real decline of 45 percent in various grant programs, increases in loans, a real decline in work study and then very sharp increases in both state and particularly institutionally-funded aid. Between 1980, '81, '89, 90, institutionally-funded aid grew by 178 percent in nominal dollars and nearly 70 percent in real terms.

How do institutions offer financial aid? There are several ways. There is need-based aid, basically filling the gap that is not met by loans in other programs. There are merit scholarships that an institution might use to attract academically-gifted students or others they would like to have in their student body.

Other non-need-based scholarships might be athletic programs or other types of programs to which the school offers scholarships to students. What these really represent is waivers; waivers of tuition room and board. I would call it a discount on revenues. I think the important concept that we want to get across, at least from our perspective, is that one other way to look at financial aid is not to look at it as cost but an offset of revenues. I think the best way to look at this might be to look at hospital financial statements very briefly.

If you have ever seen a hospital financial statement, at the top of the line it says gross patient service revenues. Then immediately below is an adjustment or an allowance for contractual adjustments, free care, bad debt and there is net patient service revenues. It is that line that really represents the revenue stream of that particular hospital and a similar phenomenon, if you were to portray it that way in a college or university would get you to net tuition.

Since 1970, there has been an increasing trend in terms of the number of students receiving institutionally-funded aid. Back in 1970, it represented about 44 percent of all students at independent institutions and by 1987, '88, it had grown to nearly 60 percent. This is data that is drawn from NICU(?), the study, "Commitment to Access."

We have a couple of examples of how it has affected two institutions that were our clients. These are both small colleges, but they represent dramatic examples of how the notion of tuition discounting affected them. In looking at this chart, it begins over on the left on 1979 and goes out to 1989 on the far right. And you can see that up until about 1983 or '84, the level of discounting at the institution was relatively stable. The pink in this represents the amount of institutionally-funded aid.

Something happened in about 1984. Their enrollments declined and you can also see a wider gap between gross tuitions and net tuitions, if you will. Basically the difference between gross tuition and the amount of institutionally-funded and that gap began to widen. They began to buy market share, in essence. They started playing the marginal revenue, marginal cost game, to increase their enrollments or at least maintain them.

About 1987, the board relaxed a little bit. It felt a little bit more comfortable because they had arrested the decline when they were looking at the gross tuition revenue line and, in fact, it had begun to go up in their eyes. But if you look at the amount of institutionally-funded aid that was being provided to students, you could see that it was still going down, perhaps not as sharply as it had been, but there still was a decline.

This particular institution is nearly bankrupt at this point in time. They had drawn down heavily on their reserves to fund the gap that was being created and it may be a matter of months or perhaps a year before the institution would have to fold.

Another example was an institution we worked with about a year ago. Again, looking at the top, you can see that in 1987, gross tuition revenues at this institution were about $9 million and at the bottom you can see that the total full time equivalent students were approximately 900. In this situation they were at about 50 percent of their capacity from ten years earlier. So, they had seen themselves a rapid decline or a steady decline in the number of students.

Between 1987 and 1988, they brought in a new president, who adopted a basically "you bet the farm" kind of strategy and what he decided to do was to eliminate or take away a certain amount of financial aid. In fact, he took out $700,000. His gamble was that by taking it away, he knew he would probably decrease enrollments because fewer students could afford to come. That is, in fact, what happened; 825 students showed up as opposed to 900 the prior year. But what did happen was the number of paying students was 640, up from 630 the prior year and the number of free heads on a full time equivalent basis had declined from 270 to 185. Despite a decline in gross tuition revenues and a decline in enrollment, his next tuition revenues went up by approximately $610,000.

To begin doing some of the modeling that we are trying to do in the paper, we created a hypothetical institution. It is important to note this is not the same ABC college that you saw a couple of slides ago. It is a new hypothetical institution; call it XYZ. This institution has approximately 4,000 students, a 1990 tuition of 7,000; total non-tuition student budget of approximately 3,000 and we assumed that expected family contributions would be distributed uniformly from zero to $25,000 during that year and that the various grant, work study and loan programs for 1990 will be $300,000. And for purposes of the analysis going forward, we assume that they increase at 1 percent a year.

Now, given the statistics we put on the prior slide, that is a probably very optimistic growth rate, but, nonetheless, it is applied in this model. Also, the college is 75 percent tuition dependent and there were 25 students receiving full merit scholarships during that period.

Using the model, we attempted to look at several different things. In the upper right quadrant of this bar chart, we looked at various increases in the cost of attendance, 10, 9, 8 percent, and tried to measure that against changes in family income, family ability to pay and then tried to calculate the amount of need that would be created under those various scenarios.

So, looking on the left hand side, their 10 percent increase in the cost of attendance, with a 5 percent increase in aggregate student resources create the 15.2 percent need. And you could look at the same in the green for a 9 percent cost of attendance or an 8 percent cost of attendance in the orange.

And, again, we just look at the various levels of need created by changes in the cost of attendance and the impact that that will have on institutionally-funded financial aid.

Now, before I begin this slide, there is a pink squiggle down there under "PEL(?)" and if you look at the legend, the purpose of this slide is not to focus on the PEL awards. The purpose of this slide is to really look at the impact on institutionally-funded financial aid at various costs of attendance. And if you draw a line down, or I should say up, from the $10,000 point on the X axis, it would come straight up to the lower portion of that orange bar that is going diagonally across the diagram.

Everybody to the left of that imaginary line is receiving some mix of financial aid, be they loans or institutionally-funded aid, PEL awards or other Title IV aid. And everybody to the right of that is paying full price. And you can see, looking at a different scenario, of $13,000, if the cost of attendance increases by $3,000 versus the $10,000, you can see a dramatic increase in the amount of institutionally-funded aid that is required to fill the same size student body.

What this really represents, looking at the next slide, is a red bar across the top and what that red bar, in essence, represents, one could argue is a charitable contribution to the institution, that for all of the students or the families of students who are paying the full price to that institution, $3,500 out of the $13,000 bill is basically subsidizing students, who could not afford to pay the full price. And that the areas, at least, of the red and the yellow shaded sections are equal.

The challenge would be, perhaps, only $9,500 in tuition should be charge to those students and, perhaps, a required, if you will, $3,500 charitable contribution should be made to the institution, so at least the tax deductibility of what they are doing could be had.

What this attempts to do is look at annual increases in student need over a ten year period. Again, this is XYZ institution. And that if student need increases by 9 percent, you can see the various impacts on institutionally-funded financial aid as they are mapped out.

In this particular one, we assume that a hundred percent of need is being met and then in the lower portion, which is the orange, we made the assumption or created a hypothetical policy whereby only 90 percent of need would be met in year one. So, for the student with zero ability to pay, they would still be required, if the tuition were $10,000, to pay a thousand dollars in that year.

Instead of under the policy that this institution might create, require them -- or at least the institution would say to them that is fixed, so that each year you only have to pay a thousand dollars regardless of how our tuition increases. What happens under that scenario is that in the second year, if the cost of attendance increases by 10 percent, the institution is actually meeting 91 percent of those students' needs.

So, the orange bar looks at an even higher increase in institutionally-funded aid required for such students, the yellow line being the full 100 percent of needs met.

I just have a couple of more slides.

Another way to look at the gross tuition and the discounting phenomenon, the assumptions made in this is that tuition and non-tuition charges grow at approximately 10 percent. Aggregate student resources are growing at the rates indicated and that this XYZ institution is meeting 100 percent of need.

You can see that at least the gross tuition line between 1990 and 2000 grows from approximately 29 or 30 million up to some $74 million. But as student resources grow at varying rates at 8 percent, the institution would realize on a net basis only $54 million and a 4 percent increase in student resources realizes only $44 million, a $30 million gap between gross and net tuition.

Looking at it in a slightly different way, back in 1990, the institution is retaining approximately 87 percent of gross tuition revenues or 87 percent of the stated price and that over time, depending on the varying rates of student resource growth by 2,000, with an average growth in student resources of 4 percent, the institution is receiving only 60 cents on every dollar of stated tuition or a 40 percent discount.

Again, that is compared to a 13 percent discount ten years earlier. So, you can begin to see the effect and the rapidity with which this can affect an institution.

My second to last slide looks at various institutional factors on net and gross tuitions. What this is basically focusing on are cost growth and growth in non-tuition revenue sources. The assumptions being made are that student resources grow at 5 percent per annum and, again, the institution is 75 percent tuition dependent.

If costs at the institution increase by 10 percent, going over to the left hand side of this, and non-tuition revenue growth equals 9 percent, the net tuition required to balance the budget or to achieve some financial equilibrium is 10.4 percent. That is the rate of increase in tuition required.

To generate 10.4 percent in net tuition revenue, gross tuition or the stated tuition price would have to increase at 13.8 percent. And, again, it plays out varying assumptions on cost growth as well as non-tuition revenue growth.

In conclusion, the phenomenon of discounting is a large and growing phenomenon in many institutions. We are not suggesting that discounting is a bad practice. It provides access to many students, who otherwise would not be able to attend an institution and for some institutions, it enables them to hold share as long as they are aware of the marginal revenue and marginal cost impacts of what they are doing.

Tuition rates and discounting will continue to go up as costs grow, as increases in historical stated tuition rates out pace the growth in student resources. You basically begin to get into a geometric spiral in this phenomenon and that as various externally-funded sources of financial aid lag behind non-tuition revenues, rates will also have to go up and that increasingly the published price of tuition may become meaningless.

The best example would be in the hospital setting. We read about the cost of 1,500 or 2,000 dollars a day to spend time in an intensive care unit. Very few people actually pay that cost to the hospital. There is a variety of payers, Blue Cross/Blue Shield, the federal and state governments, who pay varying levels of that stated price. And we would suggest that the same phenomenon may begin to prevail in higher education.

Thank you.

MR. ROGERS: Thank you very much.

I think that was a very stimulating sequence of discussions and I would like to offer a few minutes, at least, before lunch for questions from the audience. Are there people that have questions or issues that you would like to pursue with any one of our three speakers?

If you would, would you please stand up to a microphone and identify yourself. There are two microphones here.

Go ahead.

MS. CALAIS: Sean, in your presentation of what happens to the situation as you increase discounting, doesn't that relate back to the two institutions that you gave as examples, who were failing in a sense, and how are institutions going to recognize kind of a breakeven point because there is going to be a time when they can't continue to discount if their financial structure isn't that sound? Isn't there a warning light going to have to go off in there?

MR. RUSH: There will be. I think the critical issue will be the control of costs, if you will, and the maximization of non-tuition revenue sources. Those are two of the variables, which affect that. But in terms of a warning light, I think it should have gone on for a number of institutions, at least, that we focused on. But beyond that, I think the real issue comes down to controlling costs because a large driver in several of those examples and models was the cost behavior of the institution, as well as the growth in non-tuition revenue sources.

MR. STRAUSS: Jon Strauss, WPI.

Sean, you didn't mention at all the psychology of the parents that are paying this full price as the discrepancy between price and cost grows greater. Could you comment on that a little bit?

MR. RUSH: Help me understand your question just a little bit better, Jon.

MR. STRAUSS: Well, you were assuming that the parents that are paying the full price would continue to do so as the discounting phenomena got greater and greater. Most of us that look at this from the perspective of having to make these decisions think that is going to be more and more of a factor. You are assuming that it will go -- essentially, they will continue to do that forever.

MR. RUSH: Well, at least those models do. I would suggest probably you are exactly right, that it would not go on forever and the models, at least, try to portray what could happen, given a certain set of assumptions. The likelihood of that happening and the market being willing to pay and absorb that level of price is probably diminishing. Then it still comes back to the question or the issue of costs and cost control within the institution because that certainly is a driver behind the stated tuition price.

I would guess, as one who has to pay that tuition bill in 10 or 15 years, I am going to be less likely to be responsive to that.

MR. STRAUSS: I would submit it is not going to take 10 or 15 years.

MR. RUSH: I would agree with you.

MR. ANDERSON: Dick Anderson from Washington University.

Sean, given those pressures, what do you see as the pressures on need blind admission and the various subtle and sometimes not so subtle alternatives to the need blind policies that many institutions are trying to maintain?

MR. RUSH: Again, this is pure speculation on my part, but my guess is that it will eventually go away. I think many institutions will try valiantly to maintain need blind admissions, but there have been several that have abandoned the notion of need blind admissions. Some are going to the 90 percent of need approach and I think the pressures are going to be enormous in those institutions that try to maintain it.

The rate of tuition growth, as well as in financial aid, is outpacing the ability of their endowments, at least the well-endowed institutions that do have need blind institutions. The amount of endowment revenue and growth in endowment is outstripping or rather the increase in tuition price rather is outstripping the ability of the endowment and their charitable gift streams to support it.

So, I think there will be considerable pressure. As long as they increase costs at historical rates, it may be very difficult to change it.

MR. ROGERS: Maybe while this gentleman is coming up, let me ask a question of Jeff.

If we accept the data that you and Rita put forth in terms of essentially saying people are getting, in some measure, quality for what they pay and institutions that raise tuition have been able to produce the higher quality on average, what would be an appropriate federal response policy-wise in the sense of what is the objective of doing further work at the federal level with tuition as an issue to constrain it or to suggest that it go up. Seriously, what would be an appropriate recommendation, do you think?

DR. GILMORE: I am not really sure I want to touch that one, but I will any. I mean, I am suicidal.

I think there has been a lot of press in the past, certainly, Bill Bennett made this issue infamous about the higher prices and I think the data that I have really kind of show that he was in large measure wrong. I think colleges are not, in general, gouging the consumer. I think the point that Rita put out, that families are willing to pay for quality is something that -- you know, as long as we have consumers out there, who value a high quality education, they are going to be willing to pay for it.

I guess on the federal -- from the federal level, the question then becomes how much of a quality education should be governmentally subsidized. In other words, should government pay for the very best education? How much access, how much choice is a federal responsibility to fund? If we can get good educations at community colleges, at state universities, at some lower priced private colleges, does the Federal Government have an obligation to provide complete choice to students to go to any college at whatever price?

I think that is the -- the federal issue is not that these colleges -- that there are expensive colleges. I think the issue is how much is the public and the Federal Government responsible for providing choice and access.

MR. MULLEN: Having walked up here and listened to your question, now could I ask two questions? One of Jeff --

MR. ROGERS: Would you identify yourself?

MR. MULLEN: I am Mike Mullen with the Virginia Council of Higher Education.

MR. ROGERS: Thank you.

MR. MULLEN: You focused in your report on private institutions. Have you looked at the data for public institutions?

Then a second question to Sean: In your work, do you see any patterns where state institutions are using their charges to non-residents to provide that pool of funds for waivers?

DR. GILMORE: The quick answer is "no," I have not looked at public institutions, just private institutions. I think the reason is fairly clear. The private institutions, the pricing structure is fairly related to the cost, the actual cost of operations. In the public sector the price is so heavily subsidized, it becomes almost impossible to equate price with any particular quality indicator. I would have to look at that more in terms of the costs of providing that education.

It is much more complicated to get into the public sector because of the way tuition is set and it doesn't always have a -- directly related to cost in so many ways. So, maybe that is another area to go into, but, no, I have not looked at public institutions.

MR. RUSH: We haven't looked at the use of out-of-state student tuition dollars to provide financial aid to in-state students. It wouldn't surprise me if that were happening, but, again, we haven't analyzed it.

My guess is that increasingly public institutions will also become more deeply involved in the discounting phenomenon. There is a lot of pressure on public institutions right now, given state economies and the cutbacks in appropriations at many states to increase tuition, both to in-state and out-of-state students to fund a greater proportion of the costs of their education.

As those prices go up, I think the behavior that you see, at least with the primarily private institutions that we talked about in our examples, would begin to occur in the public sector as well, as their prices became higher and the discounting was required to provide access to students, which is part of the mission of many public institutions.

MR. WARNER: I am Tim Warner from Stanford. And I don't want to talk about yachts, but I just want to ask sort of a basic policy question.

That is, as you have thought about this -- and this really applies to all of the panelists -- particularly with private colleges, what is wrong with some of these colleges simply going under consolidation in the whole industry from a public policy perspective? Why shouldn't that be allowed to happen? Why should the issue of continued discounting and public subsidies continue to come up in this general discussion?

Just any comments on that.

MR. RUSH: As a matter of public policy, it is happening in the health care sector, at least in my home state of Massachusetts and in other states that I have had a chance to look at. At least in Massachusetts, for 10 or 15, perhaps even 20 years now, it was stated that the number of beds in Massachusetts was far in excess of what was required, probably by as much as a hundred percent. Through various state policies enacted over the last ten years or so, the ratchet basically has squeezed the reimbursement of many institutions and we are looking at any number of hospitals going out of business or in bankruptcy or near bankruptcy as a shakeout.

My guess is that a similarly, if you will, Darwinian model will prevail in higher education. As the marginal institutions, both academically and economically, face hard times, they are going to either close or end up merging with another institution. As a matter of policy, I wouldn't be presumptuous enough to speak to that at this point, but my guess is that a Darwinian model will prevail and perhaps policy does not need to be set with regard to that.

DR. GILMORE: I would like to respond to that, too.

I think in terms of just straight financial concerns some of the colleges probably should go out of business. They are really not strong financially. They are really not delivering a product that anybody would be proud of and especially in relation to other colleges.

I think from a public policy standpoint, it is a much more complicated, more difficult issue. First, colleges are very tenacious and they have strong constituencies, unlike hospitals. You never see an alumni organization of a hospital try to save a hospital, but you have that in colleges. You have alumni who are in influential state positions, legislators and so forth. And communities often times in these college towns revolve around a college.

So, even a bad college has a constituency that is hard to eliminate. Also, there is -- in a public policy sense, there is the issue of diversity and of access. Some of these poorly-funded colleges are historically black colleges and universities, for example, or religious institutions or connected with religious institutions.

To the degree that we value diversity in higher education and we want a variety of institutional types, then I think there is a public interest in assisting the institution in maintaining that diversity. So, if it is just financial, they ought to go out of business, but it is more than finances.

MR. ROGERS: I am afraid we are getting the high sign here that lunch is warm and getting cold. So, maybe if you could come up, we could take your question directly, but we are going to have to adjourn the session.

Thank you very much.

(Whereupon, at 12:05 p.m., the session was adjourned.

CURRENT RESEARCH ON REDUCING INSTITUTIONAL COST STRUCTURES

MR. TIERNEY: I am delighted to be here this morning. I am finding that I am among the few academics or ones who are in the academic trenches and I am a little chagrined and a little nervous about talking to people who tend to be organized towards the financial side of the institution.

But, nonetheless, if we would just get the academics to do it right, we would have no cost problems. I would like to talk a little bit about how can we control instructional costs.

I am reminded a little bit of the well-worn story about the man inside the bottle, which I am sure most of you have heard about, and the issue is how does he get out. A lot of the discussions you hear today about the causes and cures of cost escalation in one area or another -- and I am going to talk about issues of cost escalation in terms of colleges in structural budgets and what we have been doing as a mechanism for addressing that, but the obvious answer to how does he get out is how did he get in.

I would like to spend a little time talking about what I believe is the primary reason for how we got into this current predicament that we find ourselves.

I want to be very cautious when I lay out the reasons for how I think we got into this predicament because it will substantially affect the range of options that you consider in trying to close the deficit situation or control your instructional costs. And I am a little unhappy in many ways about the various things people have trotted out to explain why costs increased on the instructional side because they leave us really relatively little we can do. If you say the rates of growth in faculty salaries are contributing to cost escalation on the instructional side, then the implication is we should slow the rate of increase.

That may not be a particularly attractive thing to do in the long run when you are trying to attract and retain a faculty. There are other -- you know, referred to as the cost disease or other sorts of implications that we have always talked about, but they leave us sitting there without much in the way of options.

The second thing is after I lay out what I think the three reasons are for why costs increase in the instructional side of the budget is I am going to suggest some way to get a handle on that that is going to be a little bit different and maybe a little bit controversial, but that was the intention of my remarks today.

And then third, I am going to try to close with some implications for the type of research that needs to be done on instructional cost functions. I am going to make a disclaimer. This is a standard disclaimer that I am speaking here this morning as an academician. I am not representing the policies or practices of the University of Pennsylvania, but as you will see, this does have something to do with the policies and practices of Penn's Graduate School of Education.

Before I address what I think are the three major forces, I have two preliminary considerations I would like you to think about. The first assumption I usually make is that the basic unit of analysis is the academic department. We have, over the course of time, had all sorts of thoughts about how to analyze costs, instructional costs, and if you are not down at the departmental level, you aren't where the action is at because the primary decision-making unit responsible for those activities that affect the costs of the instructional program and services is done at the department level.

Now, this has the implication that the institution may be treated as little more than a collection of departments and, indeed, we have already had one Hutchins quote, reference this morning. I am going to give you another one. There is the Hutchins quote from 1936 in which he says, "A university is a series of disparate schools and departments, united only by the fact that they share a common president and board of trustees."

And I want to return to that and emphasize this notion of a series of disparate departments. At a later date, in the early sixties, Clark Kerr said that they were united by a common complaint over heating. He said Hutchins had said it was heating and then he amended that to say parking, but I will come back to that in a minute.

The other comment is that the basic output, if you are looking at departments of an instructional program, believe it or not, are courses. We have spent an enormous amount of time talking about the various outputs of higher education. We can talk about it in student credit hours. We can talk about -- or some derivative thereof -- degrees awarded and most recently, value added in some sense or other. But in point of fact what departments produce are courses.

Now, I am sure the very first thing you are going to tell me is -- and make an objection that this is wrong-headed because departments do other things, like produce research and there is this problem of joint production of research and teaching that goes on that has been discussed but never really adequately addressed and it is my contention that at least on the undergraduate level that the notion of research and teaching in academic departments is one of substitution. People buy out, quote, unquote, their time from doing undergraduate instruction and for the most part the courses that they teach at the undergraduate level, the content of that is probably little affected by the research and scholarship that they might do.

At the graduate level, this gets to be a bit more complicated because there is every likelihood that at the graduate level the joint production phenomena does, in fact, work, but not entirely, not entirely.

So, with these sort of two assumptions aside, you know, in your mind, what I would like to do is talk about the investment decision on the part of departments in courses and I am going to argue this morning that there are three factors that determine the departmental investment decision and their scope, scale and structure.

This is language that is becoming, I think, somewhat more familiar in a variety of contexts and I want to talk about each of them briefly in the sense of, one, define each one of these and suggest what the driving mechanism underneath that issue is.

The issue of scope is the breadth of courses that a department feels it must teach and what subject matter it must cover. This is the culmination and the fruits of the academic revolution in higher education. What we have produced is a series of people with Ph.D.'s, who go out into departments at big institutions and little ones and they are socialized in their graduate experience as to what their discipline covers, how the frontiers of knowledge are to be advanced and how it is to be taught.

A fundamental discussion of this issue, if the major research universities, which produce most of the faculty, who occupy most institutions in the country, were to substantially change the scope of the curriculum that they socialize their students in at the graduate level, it has a powerful impact on what other places think that they must teach. But this is a faculty prerogative in some ways and it is really an unconscious assumption on the part of the faculty that what they should teach is what they were taught themselves in graduate school.

The second issue is scale and that is how many courses are necessary to gain proficiency in the subject areas you have decided to teach. The driving mechanism on the issues of scale are faculty specialization and the growth of dollars. Faculty, as they get more and more interested in their particular areas, develop more and more specialized courses and this adds to the curriculum. They do not substitute courses for new advanced courses for the older courses. They add them to the curriculum. So, a faculty member, who may start by teaching two or three undergraduate courses and starts to pick up a research program and is teaching now at the graduate, two or three courses, they don't do that by reducing the two or three undergraduate courses they originally taught. That becomes somebody else's responsibility.

The third one, and perhaps my favorite, is curricular structure and that means what are the relationships among courses, minimally, in terms of pre or co-requisites. And what has been happening and has been documented in some ways by the work Bob Zemski has done is that particularly in the humanities and social sciences, the degree of structure in the curriculum has eroded. Now, why is it that the curriculum structure has eroded?

And the answer is -- and I am going to give you an efficiency answer -- is when -- is another quote from Jenks and Reesma's(?) little book that says, "Faculty are neither a tolerant nor easy-going species." And faculty are -- in order to hold and have some interdepartmental peace is you let everybody do what they want to do as long as they don't infringe upon what you want to do. So, in order to maintain peace within the department, everybody's own interests are pursued and pushed to whatever -- without limit or constraint.

So, there are sort of three issues, issues of what drives the scope -- the breadth, of course, is the subject matter that has to be offered within a department. Second, what drives the scale; the number of courses you have to deliver to produce that adequately trained person. And, third, what is the relationships among the departments among these courses.

If those are the three primary determinants of what is driving departmental curricula, what do you do to change that? How do you put constraints on the set of courses that departments are doing?

I have three. The first thing you do is you, as dean or provost or whatever, is you limit the number of courses that can be taught in a department. This is a very blunt instrument but it works. And you say to the department that the total number of courses that your department can be taught -- can teach next year is a product of the teaching mode times the number of current standing faculty. It is a very simple rule. This is something they all understand and in every case, it would require some enormous reduction in the number of courses taught.

To give you an example, I will show you what we have done and are still working on in my school. This is to give you an idea of total number of courses taught in our school. When I first became associate dean, which is the first little block, we were teaching 234 courses. I became associate dean in January. The curriculum for the following year was already in place and couldn't really be affected, but starting with the third year, we have been working steadily on reducing the number of courses taught and to a point where we are now negotiating with the chairs to reduce by yet another 15 to 20 percent the number of courses taught and by fiscal '93, we will reduced the number of courses taught by half.

Now, we do this for several reasons. First, when we first came in, we found that the total number of courses -- the total amount of students receiving instruction, fewer than 50 percent of our student credit hours were being taught by members of the tenure track faculty. There were all these other non-standing faculty that were out there teaching courses and we said that was incorrect.

So, purely on academic grounds, we said that the tenure track faculty, what we call standing faculty at our school, had to get behind the curriculum. That has obvious quality implications for the nature of what we are offering our students.

As it turns out -- and I am sure all of us have this problem -- that the people who are not in the tenure track faculty, who may be there year after year after year never go through any sort of academic review, ever. Because they are not in the tenure track, they are not subject to the normal stricture of the tenure track review. Because they are not part of the normal salary increment policy, they are not reviewed in terms of their teaching proficiency. So, you have a whole cadre -- it is not just you have part-timers out there. They are part time and outside the normal academic control, quality control, mechanisms almost entirely.

Now to accomplish this level of reduction in courses, you are going to force a -- it has to be this level. It has to be a drastic cut. The reason for that is it forces the faculty to reexamine those issues involving scope, scale and structure because if you tell them they can't teach all those courses, they have to do something about the scope, the range of subject matter they are going to entertain.

If you tell them you can't have all these levels of specialization in courses, then they have to think of a way of re-thinking about the curriculum. You can't just whittle off the edges. At the very least, you cannot start your instructional cost control by saying I am going to cut part time faculty because if you say that, when times get good, the curriculum will bloom back very quickly.

So, the only way to make a fundamental change is to force a rearticulation of what the curriculum is so that sponge-like it doesn't expand back again when good times return.

Let me go back to my other -- there is a corollary to limiting the number of courses taught and that is you have to start to create norms for class size distribution.

Now, without question, if you reduce the number of courses, the average class size is going to go up. But if you let yourself be trapped into that issue, then that is a serious mistake.

The issue is not average class size. The issue is class size distribution. You can have any numbers of average class size through various combinations of class size distributions and get the same average class size through a variety of mechanisms. Here is our current class size distribution. Forty percent of our courses have one to five students in them.

We are pushing very hard on reexamining the curriculum and as the faculty come to grips with this sort of issue, they have to look at class size distribution in two dimensions. The first dimension is the curriculum as experienced by students. You have to provide students with an opportunity, enough small courses so that all students have an opportunity to experience one. If you only have a few small courses, they are so small that very few students have an opportunity to get a hold of one of them.

So, you have to have a sufficient number of small classes, but you also have to have larger classes to offset it.

The other dimension is you have to look at the teaching responsibilities of faculty. Faculty -- and this is, again, an issue of creating norms -- some faculty can teach, you know, one or two very large classes in order to teach their one little class or -- but you start to articulate norms that you can talk -- some places talk about this in terms of the grandfather courses versus some other types of courses. So that faculty, not all faculty should be teaching big classes, nor should all faculty -- you know, some faculty be allowed to teach only little classes, but you have to work on that specifically.

The third -- and this is probably one of the more difficult -- is to shift incentives to departments. Now, you say that is -- in the University of Pennsylvania context we are a very decentralized budgeting system, but even within our school we have decentralized even further and pushed the decisions down to a level of places where people are making those decisions that affect instructional costs.

I am going to go back to the Hutchins quote because there is a very telling point. When Clark Kerr came up with the idea of updating Hutchins original quote, which was, "A university is a series of disparate departments...," he didn't say a university is a series of disparate departments. What Clark Kerr said -- and it is a very interesting modification -- let me get you the exact quote --

MR. HARRIS: Excuse me, Mike. I am in the wrong place here, but I am going to have to ask that you wind it up in about a minute or so since we have two other --

MR. TIERNEY: Okay.

One is he said, "I think of the university as a series of individual faculty entrepreneurs, who are combined by common complaint over parking." The shift from department to individual faculty has occurred. It is a disastrous consequence because the faculty now are individual entrepreneurs. You have to reassess and empower departmental chairs in ways that you haven't done it.

There are a variety of mechanisms that I could go into at another time to look at that.

This leads me just to two final conclusions. I am going to jump to the end.

One, how do you -- what type of research is required to do an analysis of instructional cost? Well, my four points on that are: One, it has to be at the department as a unit of analysis. Two, it should treat courses as a measure of output, holding constant whatever research activities go on at that level.

Three, you have to figure out what are the resources, direct and indirect, that are consumed by those courses, not a trivial matter. And, fourth, you have to figure what is the appropriate time frame. In my sense, the short run, quote, unquote, is probably somewhere in the two to four year range.

There is only one set of places, and that is Bill Massy and Bob Zemski, who are doing this type of research, looking at cost functions at the departmental level and with the course as a focus. I would refer you to some of the Pugh policy perspectives research reports on academic departmental cost structures.

The other major issue that I really want to close with is this emphasis of even if we go back to where Hutchins was in 1936, a university is a series of departments, disparate departments, there needs to be greater articulation as to which departments and how they interrelate. That ultimately is a strategic planning decision and, again, one that we are not particularly good at, but the issue is you have to have a raison d'etre for each of your departments and how they link to each other, so that the department -- so that the university is more than a series of departments you happen to be housing within the building.

Thank you.

MR. HARRIS: Thank you very much, Mike. I am sure you are going to be back up here for questions.

(Applause.)

MR. TURK: Let me get settled here for a moment and I will be all set.

Another thing we may find -- what I did earlier was I came in like speakers are supposed to and made sure all the slides work and I made sure everything else was in order. The slides disappeared, but we found them, thank God. The other thing that I did, along with Eric, was I made sure that a part of the seating arrangements right there were not filled in with seats and we came back and we found the seats there.

So, I may have to ask a few of you, just to sort of part the waters a little bit because otherwise you are not going to see the screen.

As they say, the best laid plans.

What I would like to do is follow up on Mike's conversation a bit and talk a little bit more about something else that relates to analysis of the costs in higher education. I want to talk about another sort of approach to costing that I have come across.

What we heard a little bit yesterday from Mike Walsh and also earlier today was some discussion about what has been happening at Stanford University and I would like to point to that as being a very important point at which we all sort of began to think a little more publicly if not in recent times about the cost behavior of institutions of higher education.

There is the whole issue of repositioning at

Stanford, the kind of press it has gotten, the kind of experience that I have had, at least, in meeting with institutions around the country at board levels, at the management level, the kind of point that that has made to all of us in terms of taking a look at our cost structure.

The other thing I think that is interesting, of course, is the work that Zemski and Massy have done, which Mike just referred to, which I think also are beginning to point to some particular issues that we need to focus on.

Finally, there is an increasing dialogue about the term "quality management," "strategic quality management," "total quality management," whatever you like. In fact, we have a number of institutions around the country that, indeed, are beginning to apply the concept of taking a look at ourselves, taking a look at individual entities within the enterprise, to determine whether or not there is a better way of providing service in a much more quality fashion.

All of this in many cases -- maybe I shouldn't say all of this -- a fair amount of it is anecdotal in terms of the discussion and I think what we lack, perhaps, is more tools that help us actually get our arms around the subject. That is why I think the work of Zemski and Massy is interesting. Some of what Mike has been reporting is also interesting. I would like to talk a little bit, perhaps about a new sort of costing approach.

There are really, it seems to me, three key factors that all of us are going to have to hit on in order to make some impact in cost behavior or cost containment as an objective. You have in your packets -- you are not going to be able to see all these slides easily, but you have in your packets copies of these slides.

What it is, I think, that Mike Walsh talked about yesterday that drives the whole process is that we need to have a sense of urgency. Otherwise, why should we do anything? That sense of urgency might be the budget or it might be something else that occurs within an institution or outside an institution that gives people pause, gives people concern for a situation that may be beginning to occur in the institution.

I attribute much more power to a board than perhaps Mike does, at least in the number of institutions that I have worked with, and I think the opportunity for influence and focus may be there at this present time.

What we need, of course, I think, is more information about cost and Mike talked about that yesterday and then finally the thing he talked about in order to really make some change, we have to have resolve up and down the line, resolve to do something substantive to begin to deal with the issues at hand, both on the academic side, as

Mike was talking, as well as in the administrative and support side.

One of the problems that we all have is we really, I don't believe, know our costs very well and in that -- across higher education, that isn't a universally acceptable statement, but I think it is pretty accurate in a lot of ways. We are caught in a cost information trap. We are a captive of our accounting system. Our accounting system in many ways captures cost in a standard organizational sort of way that links directly to the way the budget was prepared and that is very effective, perhaps, for cost control on a line item basis.

But perhaps we need something else, however. We don't have a costing system in many instances in institutions of higher education. It is amazing to me how much activity we had, Caspa, many, many years ago on the whole subject of costing. It was something that we were all doing and that all sort of disappeared. It disappeared, I suspect, with the good times and now that things are back to a situation where we are beginning to be a little bit more concerned about the way we are using resources, that maybe we have to go back and rethink the whole issue of cost sand get to a point at which we begin to understand cost behavior better.

My final point would be that the culture of this system as we know it is to accept the base cost that we have throughout the institution and merely increment it. That is the way in which we tend to operate. Increment it and decrement it. Good times, we increment it; bad times, we decrement by, you know, by 5 percent, 6 percent, 20 percent in some cases I heard the other day. All of that is interesting but not very useful if we are trying to put our nickels on the things that are going to be the most productive for the institution in the long run in terms of its mission, picking up a point again that Mike hit on yesterday.

What does a traditional costing system look like? Well, we are all very familiar with that. We have a whole series of overhead cost pools, which we might call stage one cost pools or interim cost centers, if you like that term. Those are things like Plan O&M(?), finance admissions and what have you. I am not going to go through all of those. We apply a series of allocation factors of one sort or another, so that we can get our cost down to schools, departments, disciplines, whatever the ultimate cost objective is that we have in mind.

On top of that, we obviously have certain direct costs, such as salaries and wages, which are at the school level or at the departmental level. So, that is the traditional way that we have applied costs in the institution.

What are the cost allocation factors? We are all familiar with those. Salaries and wages, student credit hours produced, square feet of assignable space. They are really volume related in terms of the products that are coming out of the schools, departments, disciplines, if you will. They are linked to those particular benefiting entities that we are trying to get cost to. That has been the fundamental sort of basis upon which costs have been allocated.

What is wrong with the traditional costing model? Well, it assumes that the departments, the disciplines or the schools -- I use those three terms as being synonymous. They are, obviously, organizationally different, but it assumes that that is where the costs will occur; therefore, the benefit; therefore, we allocate accordingly. And I don't think it really relates to the cost behavior. All we are doing is merely allocating the cost. We don't focus on where the costs came from and what happened, what was behind that cost. That, perhaps, is one of the shortcomings.

Activity-based costing comes out of some work that was done and has been done by Cooper Kaplan(?) at Harvard and, in fact, we have an affiliation arrangement with them and I ran into this concept in working with some of my colleagues at Peat Marwick, who were working with Cooper

Kaplan in introducing this concept in a manufacturing environment, where manufacturing has been moving to a much more significant fixed cost base, less variable costs because of the introduction of technology and the like.

I wondered and I am thinking out loud with you here today, that perhaps this ABC approach offers us maybe a different tool, a different way in which we can begin to accumulate cost and also analyze cost. I would like to just touch on a couple of the concepts because I know our time is short.

In a traditional costing model, what we typically do is we assume that the individual products themselves, as I have suggested, cause the cost to occur. So, we use these variable, if you will, volume-related -- excuse me -- volume-related allocation bases to drive costs or trace costs to the product.

In an ABC model, what we do is we trace the cost based on the demand for activities. I am going to explain what that means in a minute. We first of all want to look at the activities that are going on. Then we will trace the costs from that point to the products and to the commercial environment.

So, the key principals that we are focusing on is where the cost came from, a term that they refer to as activities that are going on in various segments of the institution. And activities relate to or focus on the kinds of transactions that are happening within an entity, the kinds of actual activities, transactions that are caused within a particular organizational unit. We might have three, four, five, six, seven different activities.

I will give you an example in a minute. What we want to do is identify as part of this the forces behind the cost, which is a term that they use, which is called cost drivers. I think, Mike, you used the term "cost drivers" or at least drivers of cost, maybe you turned the words around, a moment ago. And that is what we are really trying to get at here.

The ABC cost system says we take the cost that we typically accumulate and perhaps we even have two stages of drivers as an example, to make it a little more complicated. We accumulate cost by activities and we have some aggregate common kinds of activities that we want to bring costs together on and then through that basis, attribute those costs to schools and departments.

Let me give you a real example and you are going to have to, I am sure, look at your copy there. Let's take the admissions department. Typically, when we might allocate admissions to a final cost objective, schools, departments or whatever they are, disciplines, we probably would use perhaps the number of students that are in those particular departments, head count or maybe FTEs, whatever you like. We would allocate that.

This methodology would say wait a minute. ABC would say, first of all, what we need to do is understand what are the transactions that are actually occurring in the admissions department. We might, for example, say that there really are four kinds: recruiting and inquiry response, application processing, acceptance and follow-up and communications.

So, at that first level of activity, those are the kinds of transactions that are occurring. What we want to do is try to identify what costs pertain to those. Then at the next level we might conclude that there really are two major transactions that are really occurring in that enterprise. Right? One is to market the student and the other is to get the student to actually come to the institution and be a payer, if you will. In so doing, we are creating the customer and completing the sale.

What we might find is that certain of those activities, certain costs relate to one; certain costs relate to the other and we might apply cost differently for each of these accumulations to the particular school or department that ultimately is receiving a customer. We would have to come up with a way of doing that.

So, our challenges really are two-fold. One, we need to understand costs. What drives cost? And really one of the things that is at the first stage is some cost driver analysis. How do we get the two main kinds of costs we have, personnel and other to these particular activities so we can understand what it is costing us to do each of these things and also begin to come to a conclusion about how it is that the resources that we are applying here, people and others, are being used. And can we change that because we want to do something different in this department?

This is perhaps one of the more interesting aspects of this that I can see. I think this kind of concept also can be applied in an academic department, as well, in terms of the variety of things; instruction, you talked about, research, counseling, on and on. Although this wasn't conceived for application in an academic department, because that is the ultimate recipient of overhead cost, this was conceived for analysis of overhead departments.

Second challenge, it seems to me, is identifying what the opportunities for change are. How can we contain the costs once we understand them? And really there are a whole variety of things, which we have identified in this sort of ABC concept. We can change the flow. We can change the schedule with which activities are performed. We can provide more training to make people more efficient. We can simplify the process, eliminate the redundant and unnecessary.

Doesn't this sound familiar with regard to what Mike was talking about yesterday? Aren't these some of the drivers of the cost? Now we are talking, however, at the very practical specific departmental level.

Finally, our third challenge is to make the tough decisions. Once you understand the cost, once you figure out how to make the change, we are talking about the way people perform and I think we get back to Mike's point yesterday about making tough decisions. We may have to make cuts. We may have to change people's responsibility in terms of what they do. We have to throw out the old heypoints, I think, as he mentioned yesterday and think about a new way in which we look at the enterprise.

Forgive me for sort of zipping through this because it was rather quick. Our expectation, I suspect, is to have a paper on this at some point in the future.

Thank you, Caspa.

MR. HARRIS: Thank you, Fred, and I know you are going to have questions on that.

(Applause.)

Roger.

MR. LOWE: Earlier this year, the Department of Education funded two research studies with the National

Association of College and University Business Officers on cost reduction in higher education. The first study examined the student employment in higher education over a 15 year period. This research looks at how students have been utilized in the employment opportunities on campus and how and why the trends have changed.

Case studies have been done, which illustrate the changing role of the student and how the student and the institution can both win.

The second research study is called "Signs of our Times: Cost Reduction in 1990." The research in this area examines how institutions have reduced cost over a period of 15 years. Case studies of the five most innovative approaches for 1990 have been conducted and financial implications analyzed.

NACUBO has used as a database entries over the past 15 years in a program called the NACUBO/USX Cost Reduction Incentive Awards Program, which is designed to make institutions think about cost reduction and to share information regarding the same to other institutions.

NACUBO and the USX Foundation, formerly known as U.S. Steel Foundation, have been partners for 16 years in this very important movement relating to cost reductions in higher education, which reflects NACUBO's ongoing concern over the past 15 years with the cost of education.

I am pleased to report to you that NACUBO has received 274 applications for the 16th year judging that will be done next April. The program is sponsored financially by USX and implemented by NACUBO. Annually, our NACUBO USX Cost Reduction Incentives Award Committee is charged to, one, further promote the aims and goals of the competition, fostering a sense of shared information in cost reduction techniques throughout the higher education community and, two, to assiduously judge the merits of each proposal according to the criteria set out for such a purpose.

Each year, NACUBO sends applications to its member institutions and encourages their participation in sharing their new cost-saving ideas with other institutions of higher education. The committee meets annually in April to review the applications with basically four criteria in mind.

First, the program idea must be capable of adaptation to other campuses. Second, the originality and the uniqueness of the idea. Third, the amount of cost reduction without loss of program effectiveness. And, fourth, the amount of involvement of faculty, staff and students.

Portability at the other institutions is very important in the judging process. The amount of cost reduction is also important and is a measure of a percent of the institution's budget. In reviewing the cost shavings as a percent of budget permits recognition of cost saving ideas at small colleges and community colleges, as well as the largest and more prestigious institutions.

During the 15 years of this program, the committee has received 2,588 applications and 750 of these ideas received either a cash award or honorable mention recognition. These 750 ideas represented cost savings totaling more than $301 million as reported by the institutions that conceived them.

The multiplier effect of implementation of these ideas on other campuses is very significant. As the program has become more successful and as funds for operation of our universities have become more scarce, the program has gained in popularity. Last year, for example, the program went beyond the United States boundaries with Canadian proposals and booklets requested worldwide.

The work of the committee is serious and the review of each application certainly is not a cursory one. If an idea has been judged in the past, the committee does not consider its merit in that recognition has already been given and information disseminated to universities throughout the country.

After the judging is completed, a booklet of ideas is prepared and sent to all NACUBO members with the objective that each will adapt the ideas for their own campus, if applicable. The winners are recognized at the NACUBO annual meeting. NACUBO's information exchange program also disseminated specific proposal information to institutions seeking ideas in particular areas.

The monetary awards range from $10,000 to $100 with only one monetary award to an individual institution in any given year. Honorable mention awards are given for recognized ideas beyond the first for any given institution. Ideas that have been received and recognized run the gamut in higher education with facilities and energy conservation having been very popular ones in the past.

Others include efficiencies in general categories of auxiliary operations, finance, insurance, management, computing, personnel, purchasing, telecommunications, transportation, student records management, hazardous waste and other general cost reduction ideas.

Within each one of these broad categories are a number of individual ideas of cost savings. This program has generated much media attention that takes the ideas far beyond NACUBO. It is clear that the research done to date demonstrates that the applications received reflect the real world we live in. As the world changed, so the institutions' applications respond accordingly with these changes.

For example, when the energy crisis hit in the mid-seventies, the increase in energy-related applications rose significantly and stayed up for a period of time. Similar trends have been found relating to asbestos removal, hazardous waste disposal, escalation in health insurance rates and with more females joining the work force and the average age of our students increasing, we are receiving and seeing more applications relating to child care.

There are two significant areas where applications have remained high over the past 15 years. One relates to computer technology and the rapid change that prompts ideas and new applications. Four of the five top winners in the 1990 judging involved computer technology.

The second relates to facilities and facilities maintenance. We are all aware of the reports about the decaying campuses and the band-aid approach applied at a number of institutions to assist in the problem of the continuing mounting of deferred maintenance.

Many of the applications received reflect the ingenuity of the plant maintenance personnel in applying a band-aid approach to resolve a problem temporarily. Because of the temporary nature of many of these applications, NACUBO will not recognize these ideas because of their short term solution and in some cases, so questionable in nature that NACUBO will not promote such ideas for other institutions.

We are not exempt from this deferred maintenance problem in the State of Kansas, but I am pleased to report to you that three years ago, the Kansas Board of Regents went on record with the legislature and the legislature supported their viewpoint that a major portion of the funds that had heretofore been used for building construction be redirected for rehabilitation and major repairs of existing facilities. This plan is working and we are now making real inroads into the major deficiencies that have existed for a number of years.

The public universities in the State of Kansas have 600 buildings with 22 1/2 million square feet of space and a replacement cost of $2.4 billion. These buildings have 19 acres of roofs, 31 million square feet of streets and 155 miles of steam, water and sewer mains to keep operational. Prior to the redirection of these fundings, there were $175 million worth of deferred maintenance on the lists.

The trends reveal that the institutions continually build on ideas and technology. For example, the five most innovative approaches to cost savings in 1990 was awarded as follows: First, the top award was given to a small liberal arts college for a computerized student records and advisement system. The system matches each student with his or her academic check list that shows the requirements based on the students major field of study and tracks the student progress from enrollment to graduation.

The second included a large private institution for a development of a laser optic system. The system is an electronic document and retrieval system developed to eliminate an eight week backlog of paperwork and invoicing in the accounts payable department.

Third to a community college for their installation of a student information monitor system. The system provides students with computerized access to information through the vehicle similar to a bank automatic teller machine in an effort to provide more student information without increasing administrative staffing.

Fourth to a large public university for their installation of a software management program in a network computer laboratory. This application related to the installation of software to make its PC labs safe from software theft, licensing agreement violations and viruses.

And fifth to a large public university for the installation of a new exit sign light bulb replacement. The system is a more complicated one to explain than time permits, but suffice it to say it has assisted this institution extremely well in eliminating labor cost and constantly monitoring the exit lights for burned out bulbs.

The follow-up case studies examining these five awards demonstrate that in one year significant changes have been made to the original concepts. For example, in the case of the top award winner, the concept of using a computerized student records and advisement system, the case study has determined that in only one year the following changes have been made.

First, the campus map directory facility has expanded to include a look up capability. Second, the degree audit system has been expanded to include a what if module. This module allows the student to perform a degree audit based on their current curriculum and can show the impact of a curriculum change in the resulting degree requirements. The system matches courses taken to those required.

Additional enhancements will include adding videographics, adding the course catalog and a vehicle for interest surveys from students.

Further, the research shows good ideas in cost saving innovations and provides a solid foundation for years of cost savings efforts to come. If each institution in the country solves only one problem and applies what its sister institutions have learned in effective cost cutting approaches, the cost of education can be significantly reduced.

The research on student employment demonstrates the trends in this area have changed from more manual tasks to more sophisticated types of employment activities. In the late seventies, it was commonplace to use student employment for mowing lawns, painting buildings, servicing food in the cafeteria and related manual tasks. The trends have changed so that currently students are used in skilled labor and technical positions.

Instead of merely being on the work force, in many respects they have become partners in various projects, such as energy conservation, hazardous waste and architectural design of small projects. In 1989, the top award went to an institution that had developed a professional student assisted program in which students were recruited and placed into paraprofessional and entry level professional positions as an opportunity to contribute to the professional and educational development of the student.

The average student today is older. The world they live in is much more technically oriented and the necessity of practical experience, along with the formal education in today's job market all contribute to the changing times.

On behalf of the NACUBO/USX Cost Reduction Incentive Awards Committee, I applaud the Department of

Education for providing the funding for research, which enables us to begin to examine the trends of cost reduction. We at NACUBO will continue to foster a sense of shared information in cost reduction techniques throughout higher education.

Caspa, I will turn it back to you.

(Applause.)

MR. HARRIS: Thank you, Roger.

We are back on schedule and I apologize to my three presenters. But what I would like to do now is to have questions asked. Again, we would ask you to come to the microphone because we are recording it. Give your name, your institution and at that time, I will ask the presenters to come up here and use the mike, so we can pick it up.

MR. HOLLANDER: Ted Hollander, Rutgers. This is directed at Mike.

You talked about the importance of dealing with the academic unit and you ended up essentially leaving us hanging on the question of how you provide incentives at the departmental level to cause behavior changes. Could you elaborate -- could you finish your presentation in that area?

MR. TIERNEY: One incentive is just a flat out constraint. We tell them --

MR. HOLLANDER: That is not incentives.

MR. TIERNEY: That is right. There is no incentive in that. But it is not an incentive issue. We say exactly how many courses a department can teach period. And they have to come back -- over the first couple of years we were doing this, this was subject to some negotiation and we maybe got 80 percent of our target. Now, I think we are sort of on a roll. I think that that is possible.

In the case -- go to the last piece of the -- the academic '92/'93 year, we did have a little incentive in there, which was a reduction in the teaching load by one course. We also at the same time we were doing this, we set up a series of incentives on the department level in empowering the departmental chair. For instance, we allocated a share of the indirect cost recoveries to the departmental chair to exercise at their discretion. We also gave a piece of it to the PI.

We allocate the salary saving -- to the principal investigator. We also allocated part of the salary savings, anytime people would buy out during the academic year, back to the department chair to either staff the course that they bought out of or to use it in any other way -- we treated it as unrestricted income.

Third, we changed our tuition distribution rule so that we gave more emphasis to recruiting students and let to what I would call high degrees of insularity between departments because if you distribute tuition based on where a student enrolls, in which courses they enroll, you have provided a very strong incentive to be very retentive on the part of departments and we wanted to break that down, too.

MS. HANSON: Katharine Hanson from CFHE.

Further question on incentives and getting faculty to do certain things or not do certain things. When you have faculty who buy out time, particularly at the undergraduate level, how does that solve your problem with respect to quality control?

One of the issues, I think, that occurs at a number of particularly large universities is the notion that faculty, particularly entrepreneurial faculty, are very capable and happy to buy out their time. That leaves n dollars to the department. Even if you give it back, they say, ah ha, we will save dollars here by being an itinerant faculty person to teach the course and you end up with a large number of undergraduates being taught by a fair number of people, who are not either affiliated with the institution at all or something else.

How do you deal with that?

MR. TIERNEY: Okay. Well, what we have moved to -- we haven't done this -- this is the first year we have tried that, but we basically -- the dean has his own little fund and his way of dealing with this is to match -- he will match a salary -- let's say we allocate the salary savings back to the department and the department says, well, I want to hire one part time academic to do this. The deans says, well, if you would put in a few thousand more, I will match the total contribution, so you can hire a full time person for the year or some other incentive, anything to try to move them away from employing part time to bringing in somebody more full time over a longer period of time.

So that we are trying to set up our incentives, which as soon as you get a full time person, they start to move right into our normal academic review processes. He has to go through faculty personnel committees and the standard thing, but if you leave it outside on a course by course basis, they are lost.

So, the dean has to sit down and provide an incentive to the department in that. Instead of putting it into a course by course part time replacement, to try to encourage the departments to go for a full time person. So, as we go through -- and we are just in the midst of doing that for next year. If they have got five courses that they have to cover by virtue of buy outs, instead of saying five part time people, we would say I tell you what, we will pay half the cost of a full time person to teach if you will pay the other half. So, that is our mechanism for dealing with that.

MR. HARRIS: Someone else? Surely you are not going to let Fred and Roger get away with nothing.

MR. DEL BIAGGIO: I am Ed Del Biaggio, vice president for administrative affairs at Humboldt State University.

A question for Fred. I would like to have him explain a little bit in terms of the ABC approach to higher education. What you indicated was that you determined the activity and then you got down your chart there the admissions records down to the department. How would you implement a cost reduction program if some of the departments wanted the activity performed and some of them don't?

MR. TURK: Well, I think what you are trying to do --

MR. DEL BIAGGIO: You have got recruitment. I mean, everybody is involved in the recruitment.

MR. TURK: Yes, but there are different ways I would suspect in which you can recruit students. I mean, you can decide to travel broadly or you can decide to narrow your focus. You can identify specific states where you want to recruit students. There are certain ways in which you can decide to follow up or not follow up with students. Not being an admissions expert, I don't know what all the variables are, but my sense is, from people who I talk to in that particular department, is that there are a whole variety of different things you can do in terms of reaching out and attracting students.

MR. DEL BIAGGIO: Let me see if I can focus just a little bit more perhaps. The issue on the campus is cost reduction or cost elimination and you provide various activities on the campus. If you are attempting to reduce costs in your department and you provide services to various units in the institution, how do you address the issue of some people will say, fine, they will do without the service. Another department will say they won't be able to do without a service.

It is an institutional responsibility to provide it.

MR. TURK: I see what you are getting at. I think maybe that again goes back to something that Mike said yesterday. First of all, let me see if I can come at it a different way. One of the things that I see very valuable in analyzing any institution or organization is to identify or understand not only what the costs are but the revenues of those particular schools and departments. In doing so, what we have tended to do is merely allocate these costs down to those schools or departments. What happens naturally is that people are unhappy with full cost allocations because they can't get their arms around them.

They don't know what it means and what happens is your deans and department chairs come back and say, well, wait a minute. Why don't you go look at those folks before you charge me with all that overhead so I can figure out what I am going to -- you know, what I am going to do. I want to make sure that what you are charging me is done appropriately and correctly.

So, this concept, perhaps, gets us back to the source of those overhead charges. Now, it seems to me that if you have the information available, which tells you obviously the cost of those particular activities in admissions or any other function, then you also have an idea of the quality of that work. I mean, you begin to get some sense of what it is they are doing and whether or not it is being productive or not. It seems to me management with information that it has now at hand has to obviously enter into the equation, as Mike was suggesting, I think, yesterday, begin to make judgments about whether or not they want to do things in a little bit different way, whether or not certain things actually have to be done just because a service is required, whether or not there are some functions that perhaps shouldn't be done any longer by the institution or the enterprise and rather should be done on a contract basis externally because the cost/benefit equation suggests that that is an appropriate move in that direction.

I am not sure I am answering your question. What I am trying to get at is that it is a judgment that is based on information that is objective and also ultimately some subjective judgment about the scope of a particular entity or entities responsibility in terms of serving the enterprise.

Something else I think that Massy and Zemski suggest is that when you step back and look at the enterprise and perhaps look at it in a little bit different fashion, you can begin to think about ways in which you can combine like or complementary activities as well. That suggests a whole other way in which services might be provided, perhaps at less cost because there is less oversight that is required of independent entities, so that you in essence have one manager responsible for a variety of activities that perhaps were done in separate entities before.

I mean, there is no perfect answer to that, I think.

MR. LIEBERMAN: Dave Lieberman from the University of Miami.

This is for Fred. I found your next to last chart reminiscent of stuff that was used back in the sixties in cost reduction programs very fine, very fundamental and I don't know any other ways that you reduce cost, other than by the items that are in the circle.

When you put that together with activity-based costing, I have a concern as to the magnitude of the effort in a research university to achieve results. My best guess is that the front end investment might exceed the net worth of many of our institutions or the consulting fees might exceed our net worth. And I also wonder if there is any opportunity to learn from each other and if in your experience any institutions have gotten together and compared activities and cost reduction ideas so as to somehow find a way to short circuit the front end investment.

I would really like you to express yourself on the economics of the investment in cost reduction in terms of the time table, the resource requirements for implementing a program like this in a research university.

MR. TURK: That is an excellent question, Dave. You always know how to get me. It is an excellent question.

I think, first of all, let me say this. I think it is very important for institutions to understand the cost and revenues of schools at a minimum and in so doing, it seems to me that you begin to raise a series of questions about what those costs are. They are natural questions that -- when you begin together the cost of those schools and divisions and the revenues, people begin to question them.

They begin to ask why so much cost to my particular school, et cetera, et cetera.

You can't deal with it all economically as you suggest, nor would I suggest that that be the case. What I would suggest is that first of all you need a cost system in the first instance that tries to arrive at that point at which you have cost and revenue by schools. Then I would begin to focus on selected overhead cost pools, if I can call them that and begin to maybe think about doing this sort of analysis on a series of pilot projects that can be digested, that can be looked at, maybe that involves a combination of people in some sort of a task force environment, again, along the lines perhaps of what Mike Walsh was suggesting yesterday.

See, what I am offering here is an idea. I don't have any case studies in higher ed. There are a few case studies in the manufacturing environment at the current point. There are a number of them, but, you know, not hundreds and hundreds of them, as far as I know. But I think that perhaps if one were to pick a half a dozen cost centers or three cost centers as part of the allocation of costs and sort of go upstream, all right, back to some of those overhead pools and begin to take a look at them with this concept in mind and begin to then change the way in which cost is attributed to those final cost objectives over a period of time, one, we will have better, I think, information with regard to what it really costs us and, two, perhaps what we will do is really begin to get at the internal drivers of cost in those particular entities that we have selected.

Now, all of us know that we have all tried to do some of that. We have never done it within a context of a system, a cost system. We have individually looked at different departments or overhead cost centers, like Plan O&M and admissions and what have. We have gone and looked at it. We have a visiting team together or we got an internal team to take a look at those operations to come up with suggestions for change. But there has never been a context to do that within.

I saw this as perhaps the beginnings of part of the system that creates a cost system that is separate and apart, at least for the moment, separate and apart from the traditional accounting system.

MR. HARRIS: Two things -- we are getting read to run out of time. We will take one more question, but I might just also add, David, if any of you come up with what Fred is talking about, please submit it to Roger's committee, so the rest of us can share it. We will give you a prize.

MR. TURK: Actually it is a good idea to begin to perhaps do some of these things and compare that, compare the standards and what have you.

MR. JONES: Dennis Jones from NCHEMS. And my question is directed at Mike.

The thing that I would note, two or three things, and I want to see if you -- what you found. One, much of the conversation we have had and you have addressed are graduate level in a major research university. So, you can use the course as unit of analysis and so you can limit courses and et cetera. That is point one.

Point two, the thing that I see when I go to smaller institutions and when they talk about, you know, we are strapped, we have nothing that we can do, the single most flexible resource they have in many ways is the time and attention of the faculty so if they really want to make change within the institution, it has to happen because they do academic things differently.

And, three, if you link that to the whole notion about improved undergraduate education, it comes down to not just changing the number of courses they teach, it comes down to the content of those courses themselves. Okay, particularly at the first two years in the undergraduate core, you talk about getting savings and improving education through change in the curriculum itself within the course, not the number of courses.

When you have put limitations on the number of courses that your faculty could offer in the school, have they gone so far as to change content of courses yet or are they very much about the business of paring specific courses and not doing a lot of curricular reform?

MR. TIERNEY: Well, I guess there are at least two different questions asked.

First, I think, we have gone through a moderately successful strategic planning exercise within our school, aimed directly at -- that had a committee composed almost entirely of faculty. The first thing that faculty are wont to do is to talk about the curriculum. I think they have made a series of proposals to fundamentally change the nature of the -- what we are imposing in terms of reductions in the number of courses is so fundamental, it forces them to talk about restructuring the curriculum and it can no longer be even within a single department because they cannot with their own resources deliver what they would like to do.

So, they now have to talk to other departments and say how are they going to get this together. So, I would say that discussion has now been given as a charge to the Committee on Degrees for our school. Has it happened yet? No, but I am hopeful that that will happen.

With respect to smaller institutions -- I am fortunate. We don't have any undergraduates in our school. So, I don't have to worry about that problem. However, if I look at small -- I was at a small college -- I mean, one of the smallest private liberal arts colleges in the country -- and the exact same dynamics that I talked about that drove the structuring of the curriculum worked there and the faculty argue I want a teaching load that is three or four courses, even though they are not a research institution. They say I would like -- worse, if you start to get into it, if you look at the structuring of extra compensation, curriculum is set up so they can teach at night or in the summers and that is the way they provide themselves with extra compensation to offset to some extent whatever their salary scale is. And you have to get control over that.

One of the things we proposed was precisely along this line. I was talking to a faculty that numbered less than -- I think the total size of the faculty of this institution was probably 75 and it was like I was talking to my own graduate faculty. They say, well, we teach, we come in, we do our graduate work, our preparation for graduate school. We have very small advanced upper division courses and nobody really -- we have a few humongous, you know, lower division courses. And they weren't interested in teaching the lower division or structuring an experience for undergraduates that was very positive. They wanted to get into their labs or do whatever else and then take off.

They also, by the way, wanted to make sure that some required courses could only be taken during the summer or in the evening, so they got extra compensation. You have to have a certain degree of fortitude to stop that.

MR. HARRIS: Thank you all very much. Let's thank the panel. I am sorry we have to cut it off.

(Applause.)

Lunch is served on this floor in the Capital Room.

Thank you.

(Whereupon, at 11:50 a.m., the session was adjourned.)

MS. HANSEN: This is the workshop on the issue of Financial Implications of Demographic Trends. I'm Janet Hansen from the College Board, and I have the pleasure of introducing our discussants this morning.

Before I do that, let me just remind you that both of our speakers will talk first and then we'll leave some time for questions and answers at the end. And I also remind you that even though we are a small and intimate crowd, these sessions are being taped. So, although it will probably feel a bit odd, would you, during the question and answer period, nevertheless go to the microphones and identify yourselves, because that will help enormously the people who have to transcribe all these sessions.

Our speakers this morning are Carol Francis and Scott Hughes, who are working together on two monographs for NACUBO on the impact of demographic trends on higher education in the 1990's and the impact of work force trends on higher education in the 1990's.

Carol is the President of Carol Francis and Associates and is a specialist in the economics and finance of higher education. Scott is a principal in the San Francisco Office of KPMG Peat, Marwick and is a policy analyst and advisor on strategic services to post-secondary education clients.

Both Carol and Scott have extensive experience in advising both associations and institutions in their areas of expertise and have also written extensively. Carol's most recent report is on "What Factors Affect College Tuition: A Guide to the Facts and Issues." And Scott's most recent publication is, "Managing Change in Higher Education: Preparing for the 21st Century."

Carol will lead off and then Scott will make his presentation, and then we'll have questions.

THE IMPACT OF DEMOGRAPHIC TRENDS IN HIGHER EDUCATION IN THE 1990'S

MS. FRANCIS: We'll convert this into a small working session. I'm going to talk from these. The charts may make pictures of what you are already very well aware of, but perhaps it will trigger some additional ideas.

I want to make two points at the outset of this presentation, one with respect to the use, misuse and abuse of demographics. It's my very, very firm conviction that the misuse of demographics in the 1970's and 1980's contributed significantly to the economic and political problems higher education will face in the 1990's.

Basically, in the seventies and early eighties, we were fixated on the decline in the college-age population. We looked at the downward trend in the 18 to 24-year old population, concluded there was weak demand; and, in a weak demand situation, we're clearly not able, we thought, to raise tuition and thus ended up by under-pricing higher education relative to the underlying cost increases.

In the late 1980's and early nineties, higher education has been forced into a period of compensatory and catch-up increases, and we have been visited with a terrible political fall-out, and we've got the college-bashing in the press. And I believe essentially what happened is that the fixation on the demographic trends diverted attention from much more serious financial problems of inflation.

So my first message is that demography is not destiny, and you consistently under-estimate demand for higher education if you look only at the demographic trends. Flip to Chart Nos. 9, 10 and 11 to illustrate this point.

Chart No. 9 shows in the darker trend actual college enrollment. The lighter line is enrollment projected, using the composition of the population and the college-going rates as of the initial period, say, in '70, '80 and '90. And what you see is that, if you project college enrollment and college demand on the basis exclusively of demographic trends, you result in very serious under-estimation of actual demand.

In Chart No. 10, the bottom line that curves down is the trend in the 18 to 24-year old population. Now, some people were projecting college enrollment on the basis of that demographic downturn. What, in fact, happened was that college enrollment was much closer to overall economic activity and less closely attached to the 18 to 24-year old population. You also see that in periods of slowdown you have an increase in college enrollment, so that, in the long term, there's a positive relationship to economic activity. In the short run, you've got a negative relationship because it's counter-cyclical.

Chart No. 11 shows that there is a very good connection between the number of 18-year olds and the number of entering freshmen, but that's a relatively small share of the total but very significant, of course, because that is the pipeline.

The second thing I want to do is put demographics in its place. What I want to say is it is absolutely essential to have the best available demographic data, and that means not looking just at the 18 to 24-year old population but all of the relevant education groups, and then consider that the demographics is the essential first step in any analysis of the implication of this for financing of higher education. But it is only the first step. We have to put the demographics into context.

Flip, if you will, to the last page and consider that we used to say demographics, college enrollment are -- essentially our model for college enrollment projections was a two-part model. We revised that in the second generation, and we did understand that there was an intermediate college-going rate which captured all the social and political and economic trends.

We are now working with Scott. We have the privilege of working with the Arizona Board of Regents to help them project college enrollment demand over the next 20 years to the year 2010, and this model is our attempt to put the demographics into context. It is absolutely essential, but there's a whole lot else that has to be taken into consideration.

Some people who have taken a look at this model have screamed in horror that this is much too complex to take into consideration, but we believe that use of a new technology, system dynamics computer programming, will enable us to take into account these rather complex interrelationships. So we think it's very important to realize that demographics is not destiny. It's essential to learn about it, but we need to put it into context.

What I want to do for the bulk of our discussion is really think in terms of a matrix. I really do want to make this a working session so that we have your ideas as we go along. Along one side of the matrix, let's think about the financial domains which might be impacted by demographic trends. This would include demand for college, the need for student aid, costs and expenditures, revenues, fund raising, capital investment and possibly new technology.

Now, along the top of this policy matrix or analytic matrix, let's think about the major types of demographic trends that could possibly impact on higher education. And along the top of that matrix we would consider the overall rates of population growth, migration patterns, changes in the mix of population by age and race, and changes then that are demographic/sociological in terms of the family structure and changes in terms of living patterns. So down one side we've got financial domains, and on the top side we've got types of demographic trends.

Now, what I want to do as quickly as I can is go through these domains, basically almost developing a checklist of suggestions about the ways that demographics can impact higher education, finance specifically, with an important caveat that Scott emphasized. That is, there is enormous variability across the states, regions and localities in the demographic trends, so it is very likely that national data must be supplemented by local market data and local planning data to know exactly what's going on. So use the national data, the national trends, to raise the questions, but they have to be answered with local information.

So what I'd like to do now is go as rapidly as possible through these kinds of implications and solicit your additional comments as we go.

Starting with demand for education, what are the demographic trends. Flip to Chart Nos. 5 and 6. The sequence of charts you can consider to be part of managed chaos. What it is, at 6:00 o'clock this morning, to reduce the time to get through the presentation, I reorganized it. Looking at Nos. 5 and 6, No. 5 is the birth rates; and we simply moved the scale 18 years and we fundamentally get trends in the college-age population, 18 to 24. So you see the baby boom and as it ages up.

There is a dramatic difference in the rate of increase in the 18 to 24-year old population. In the seventies, that age group increased almost a quarter, 23 percent. And, contrasted with the eighties, that group decreased by almost 15 percent. So we went from a 23 percent increase to a decrease of 15 percent.

The nineties is much more modest. It's only a decrease of about 5 percent, and then going into the first decade of the next century it begins to pick up again to 12 percent but still not reaching the peak of the early eighties.

Yes, Cliff?

MR. ADEHMAN: When I'm looking at this, Carol, in terms of estimating, I've got two questions that pop right away; they stick right out. The adjustment for the change in high school graduation rates on the assumption that when you're referring to higher education, -- which again, I'm not exactly sure what the universe is there, but -- on the assumption that that refers to all two and four-year colleges and that the proprietaries are not in your universe. Or are they?

MS. HANSEN: If they are --

MR. ADEHMAN: Post-secondary ABTI's are not in your universe, or are they?

MS. HANSEN: If they're in the Department of Education universe for enrollment figures, they are in my universe.

MR. ADEHMAN: Oh, boy. Then you're talking about nine to ten thousand institutions; you're not talking about 3400. You're talking about in the IPETS universe, you are talking about nine to ten thousand institutions. Then we're in a much broader notion than simply talking about college.

So this kind of idea, (a); and (b), that the high school graduation rate has to be filtered in there; and (c), something that Rick referred to that we're stuck with right now, a certain percentage of people being admitted to higher education, to post-secondary education without high school diplomas, and you have to look at that as well in terms of all of this. I assume all of that is going to be worked in.

MS. HANSEN: Flip back to the last page and we have high school graduation rates in there. Population on one corner and then high school graduation rates is the second box. Now, what --

MR. ADEHMAN: It's just the trends, the adjusted trends. When I was looking for it in that, the projections were not --

MS. HANSEN: Let me tell you, we've got trends on high school graduation rates. But what we discovered when we looked at those trends is that there is a battle between the Department of Education and the Bureau of the Census about what those rates are. And basically, when you look at the Department of Education rates over time, they peaked in the seventies and have declined significantly, enough to be alarming. But when you talk with the Bureau of Census people, they show the high school graduations going up.

And the difference is, apparently, that the Education Department looks at institutional data and the Commerce people, Census people, look at household data, and apparently, there is a war going on as to who has got the best high school graduation rate data. Each has their own opinion. But it is very significant that we figure out who's right because the Department of Education is almost a criminal indictment of the education system; whereas, the Commerce data is much more hopeful.

Now we got into that, and then we started -- as we were working with the Arizona people they said, "Ah-ha. Even if you got high school graduation rates, that's not enough." They just had 31,000 transcripts, and what they discovered was that the high school students were tracked. And though they intended to increase the enrollment of minorities 10 percent per year compounded annually, they could not because they had not had the college preparation.

So we've actually, in the version from this that is now at the printer, added two more boxes. One is the preparation for college-level work in addition to the high school graduation rate, which is very significant and very different by race; and we've also added as a factor and demand the perceived costs and value of the college education, which we try to get through survey.

So you're absolutely right.

MR. ADEHMAN: But you've also taken -- if you say that they're tracked and there's a certain group that are going on the college track, if your universe of institutions is bigger than two or four-year institutions, then you're also taking account of the others. I assume you have.

MS. HANSEN: We should. Yes. Definitely, we have assumed or we're trying to tackle a very large thing.

Now I'm on the first of 30 points here. I'll try to talk faster. Flip to Chart No. 12 because, in addition to the decline in college-aged population which continues, the new element in the 1990's now, the slightly older, the 25 to 29 and the older groups, begin to decline. In the eighties these groups continued to increase, supported the increase in the number of older students that were coming into college. I think with the decline in the 25 to 29-year olds, we're going to have fewer graduate students, and there are a whole lot of implications about that.

Flip to Chart No. 7 and you will see significant differences in the composition -- well, the changes in the growth of the 18 to 24-year old. What I have is the changes in the 18 to 24-year old by race -- significant decreases in the white population of that age; almost even for the black; and significant increases, extraordinary percentage increases, for Hispanic and Asian. Hispanic and Asian offset numerically almost 30 percent of the decline in the white.

But what that means for the financing is increased compensatory education to the extent that these students are not as well served by the elementary system; it means more linkages between the K-12 and post-secondary school. It also means that as states and systems and individual institutions look at financial exigency and impose enrollment caps and implement policies of shrinking quality, that we are very likely to collide with objectives of increasing opportunity for disadvantaged minority students.

On the demand side, still, we have very, very significant interstate migration patterns that contribute significantly to the variation in population growth rates; and what we're going to see, I think, is greatly increased differentials between in-state and out-of-state tuition. We are nearing full-cost pricing for out-of-state students, and we're going to need to find out from a financial perspective what is full cost, and do we mean average or marginal cost.

From the international perspective, flip to Chart Nos. 2, 3 and 4. What you will see in No. 2 is that a very significant component of total population growth in the U.S. is accounted for by immigration. The composition of that immigration has changed dramatically. Chart No. 3 shows almost two million additional people from Asian areas, and the Asians have different sets of program participation. They're more oriented to the science and engineering, and many need "English As A Second Language" programs.

You also see the straight up line in Chart No. 4, which was the recognition of the illegal immigrants that had been coming in over the previous years.

Trying to look quickly at what the demographics might mean for tuition pricing, we've got many more older students, many more part-time students, and I think there will be issues with respect to the differential between full time and part time pricing of student credit hours. And in terms of indicators, probably a significant need to look at not only full-time equivalent enrollment but a financial full-time equivalent and see what the trends are and whether there's a differential in the types of services that are needed for the different age groups.

With respect to student aid, we're going to have significantly more minority students and significantly more students from single-parent families that have fewer resources for college. We know that will mean a greater need for student aid, and it is very likely that increases in federal and state student aid are not going to be commensurate with that need. That means more pressure still on institutionally-funded student aid, and that translates into more pressure on tuition as we essentially implement the privatization of the tax structure. We are privatizing the financing of student aid by putting it over on those who are enrolled in college.

There's another set of issues with respect to student aid. That is, the older students at college in the next decade are going to be older, so the older students are getting older. The average age of the older student is going to increase. This produces another set of issues with respect to student aid. It is whether they should have access to existing student aid programs, under which they are not currently well served, or do we need to restructure those programs in order to serve their needs more effectively.

There's another set of considerations that may be significant for those who are concerned with needs analysis. As we have an older population who's living longer, they're going to need more income to support themselves in those added years of retirement. That translates into lower expected family contributions for student aid in the current period, which again increases demand for student aid.

With respect to costs, continuing decline in the college-age population means more recruitment costs. If we have a smaller number of people going into graduate work, we're going to have a shift likely focused on undergraduate and graduate activities. So, with fewer graduates there will be less cost pressure; there will be less probably inter-divisional cross-subsidization of the undergraduate subsidizing the upper division and graduate activities.

It's possible that we will see larger classes, lower costs and higher productivity with respect to one way of measuring it. It also may mean greater focus on instruction, but it will lead to higher costs in producing research because you aren't going to have the graduate students to help or as TA's.

Now there's another set of demographic issues, and that's with respect to the explosive growth -- well, they're internal to higher education -- explosive growth of college enrollment in the sixties. Faculty was hired to teach them. That faculty in the nineties is approaching retirement. Now, whether or not there's a shortage, -- and there's a debate -- it is going to cost more to re-hire or to replace these people, and they're likely not to be in the same fields but in new fields where the competition with industry will produce higher salaries than the entry-level people in previous decades. Institutions that are facing these higher costs of hiring may want to look at their own human resource development policies and try to grow their people from within as a possibility.

There is one important aspect that I would like to have you look at. Flip to Chart Nos. 8 and 12. Looking at No. 8, many of the people who look at demographics for higher education don't look at the elementary, the 5 to 17-year. What happens is that in the nineties, there is exceptional growth in the elementary and secondary level. That's going to mean demand at the state level for resources to educate these students to the disadvantage of higher education. That's going to put an added squeeze on the state budget and more pressures on higher education, and that also is likely to lead to increases in tuition.

I was very, very interested in the discussion on fund raising. And I wonder if the older population sees that it's going to live longer, if that will, in an uncertain world, lead them to believe that they need more money for retirement and adversely affect giving. I don't know. We'll have to discuss your opinion on that.

With respect to the capital investment impact of demographic trends, with more older students you're going to have more commuters, fewer people on campus. So I would imagine there would be an impact of fewer dorms, more parking spaces needed. We continue an urbanization, edge-city development, the opportunity to use new technology to deliver educational services to people who don't want to battle the traffic patterns to get back downtown.

We also have another impact of the past demographic trends on current financial needs. The enrollment boom was accompanied by a construction boom in plant and equipment in the sixties. The buildings are now old; they need renovation. But we do not necessarily -- with the lack of depreciation accounting and reserves for replacement, the capital resources available for that restoration may not be adequate. So I suspect that the current impact of previous demographic trends is going to be requirements for new capital for higher education; and it may be hard to raise in the current environment, which will lead to increased borrowing, which will lead to fixed financial commitments and reduced financial flexibility.

I'll close with a couple of thoughts. One thing we should look at is the impact of demographics on the politics of higher education finance. With an older population, we do see significant evidence that the older population is less willing to vote for tax support of higher education or to create borrowing authority. That puts added downward pressure on the revenues, which then continues the support for cost containment and quality improvement without added resources.

There's another dimension of this -- population shifts are continuous over the decade; but every ten years, demographic trends produce a jolt to the political system with respect -- and this occurs in the re-drawing of congressional districts. Now, institutions develop special relationships with their state and national representatives. Those special relationships are extremely important in the financing of higher education, particularly the resources for special projects.

The governmental relations representatives need to be aware of that re-drawing, where the congressional districts are redrawn, and the institution could end up in a new district with new people. So, in addition to lobbying for funds, the representatives of the institutions probably should pay more attention than they have to the re-districting process and, if possible, play a role in it.

The last point, look at Chart Nos. 1 and 2. Chart No. 1 documents what you may have heard, the ultimate impact of the demographic trends, the overall. We're entering an era where we have the slowest growth for any decade in the 20th Century, which means that in order, now, -- joining the economics. In the eighties, we consumed a trillion dollars more than we produced. In the nineties, we've got to produce more than we consume. Therefore, we have to increase productivity, but we're trying to do it with a very slow growth in the population and labor force. Therefore, to increase productivity, we've got to increase education and training.

So in my view, the most significant, overall demographic trend and its impact on higher education is that higher education becomes the nation's number one strategic industry. In a new economic era of intellectual capitalism, higher education produces the essential human resources.

Now, higher education is clearly an industry where the U.S. has a comparative advantage in global competition, and what we have to do is convert the challenge of the demographic trends into policies which re-order national investment priorities toward development of our human resources. Thank you.

WORK FORCE TRENDS AND THEIR IMPACT ON HIGHER

EDUCATION IN THE 1990'S

MR. HUGHES: There is a handout for my material as well, and it has this cover which describes "Work Force Trends and The Impact on Higher Education in The 1990's. It will be a series of transparencies which I'm going to show you. What I want to do is build on the last theme that Carol just described, and that is the significant change that will be taking place in our society in the 1990's relative to the way in which we go about doing work and who's going to be doing the work and the impact that has on higher education.

So there are four things I would like to talk about for the next few minutes. The first one is the characteristics of the work force in the 1990's and give you the highlights of that; secondly, the characteristics of work in the 1990's. We are going to be doing things differently than we are now, and I'll give you highlights of those. The third thing is to look at the implications that changes in the work force and going about doing work have on higher education as a system; and then, finally, the implications for managers of higher education institutions and how they're going to have to change their behavior.

So you're going to have to listen fast because I'm going to talk fast.

The points with regard to the characteristics of the work force in the 1990's, let me tick them off and then we'll talk about each one briefly with the slides that follow.

First of all, as Carol says, there is a slowing down of the growth in the labor force of this country in the 1990's. There is a shift in the composition of the work force towards women and minorities and away from white males. Our society will become more chaotic with regard to the work force and there will be a number of displaced workers. There will continue to be large variances in employment growth by sector. Some types of labor groupings will increase dramatically; others will actually decrease. And finally, there's a dramatic change in the requirements of the education attainment level for those high-growth occupations.

I think this chart more than anything else is going to live with us through the 1990's and actually may come to haunt us. What it shows is that, since the 1970's, there is a dramatic decline in the number of people entering the work force. We absorbed in the 1970's an increase in the work force of about 28 percent, a 14.7 percent increase in the 1980's, and in the 1990's it's all the way down to 11.6 percent.

What that means as a society is that we were able to sustain our standard of living and prosper based upon throwing more men on the job -- literally, to a great extent it was more men on the job. Now we're entering a phase in which we'll no longer be able to rely upon growth solely through increases in the work force, but we're going to have to get it through productivity.

A large part of the growth even in the 1980's came as a result of women entering the work force, so it's even more dramatic. We went after part of the U.S. population that traditionally had not been in the work force and added them, and we've pretty much run that out as women begin to reach a natural plateau at which they will participate in the work force.

Then the next significant thing is the change in the mix in the work force. And again, it's dramatic. We are truly a white, male-driven society; there's just no doubt about it when you take a look at the various changes. But our day in the sun is fading, and by the year 2000 it will essentially be gone.

Let me give you a couple of numbers that you can work with. In 1988, there were about 122 million people in the work force. It will go to about 141 million in the year 2000. That's a little over 19 million people added to the work force in that period of time -- 19 million net added to the work force during that period of time.

Two other numbers. About 43 million people come into the work force and 23 million people go out. 43 come in, 23 go out. Virtually half of the people leaving the work force in the 1990's are white male. Half of the people leaving the work force, of the 42 million, will be white male. Only 32 percent of the entrants, the new people coming in, will be white male. So 48 percent go out; 32 percent come in. They will be filled with white females and minorities.

You can see in the bottom chart the differences in those who are coming in by race and sex and those that are going and the dramatic changes with white men. Women dramatically increase their position; minority men, minority women significantly increase theirs. 68 percent of all new entrants will be women and minorities. Truly, by the year 2000, we will have a multi-cultural work force, which is not very far off.

Let me make the next comment with regard to displaced workers, which is the next point. We are entering a chaotic society with regard to the way in which jobs turn over. It used to be one job/one person. My father was certainly in that case; many of your parents may be as well, at least your fathers. We're now changing to the point where we will have portfolio careers -- we will drop out; we'll go back and pick up advanced degrees; we will go for re-training; we will, on our own volition, change our occupations and avocations like we have not done before.

There's also going to be changes in the composition of the way in which we do work in organizational structures through corporate mergers, acquisitions, increased international competition, down-sizing, plant relocations and closings. We will truly see a dramatic movement in the way in which work gets done in the 1990's, again making a tremendous impact on the numbers of jobs that individual workers will have.

The next point is the shift as we move away from work that is not based on education attainment level to work that is based upon education attainment level. We will see a dramatic change in the education required for occupations. This first table shows you the number of years of college you need by type of occupation, and for those types of occupations the growth rates that will be experienced during the 1990's. And what you can see on the next chart is the high correlation between educational attainment level and the growth potential for those jobs requiring high education attainment levels.

If you look in the lower lefthand corner, you see those kinds of occupations that will not grow very much in the 1990's. Those are also the jobs that do not have a very high education attainment level. As you drift higher up the scale towards the upper righthand corner, you see the correlation for those jobs that will be growing significantly in the 1990's and the education required. In this case, we're using a measurement of four years of college, which is a high level of attainment.

I've always wondered about those lawyers and judges who don't have four-year degrees. I haven't quite figured that one out yet.

That is a very thumbnail sketch of what's going to be happening in the work force in the 1990's, and there's going to be a dramatic shift from white males to minorities. There's going to be much more chaos with regard to the numbers of jobs that we'll hold in our lifetimes; there will be much greater demand for education attainment level. Everything in those same trends says to me that there's going to be increased demand for higher education services.

The next thing we take a look at is the way in which work is going to be done differently in the 1990's. Mike Walsh talked a little bit about some of these trends last night. The first one is a transition from an industrial society to a service-based information society. We all know that. But imbedded in that concept is that power is shifting to those with knowledge. If you read Toffler and "Power Shift," it's a great treatise on how power is replacing wealth which replaced violence, is where, as a society, you get power.

Eighty percent of all jobs in the year 2000 will require some level of cerebral skills rather than manual labor. Charles Handy says that in "The Age of Unreason." Interviews that we conducted with corporate leaders as part of this study asked them what was going to be the important skill sets for the 1990's. Ability to communicate, computer literacy, human interaction skills, and the ability to be flexible are all the characteristics that are going to be in demand and will make us successful and productive in the 1990's. And finally, the need to have the ability to respond to a rapidly-changing environment.

The second point is the flattening of the corporate organizational structures. I'm to the point now of essentially saying the demise of bureaucracies is going to happen in the 1990's, is already happening. And it's happening as a result of the tremendous advances being made in communications and technology, which is eliminating the need for hierarchical structures and little boxes in which work gets defined and compartmentalized. Through the advances of communication theories, networking and technology advancements, we are able to collapse down organizational structures and remove middle layers.

Let me just give you one little anecdote that really hit me. On January 16th, as the balloon went up on the war in the Persian Gulf, we at home knew more about what was going on with regard to the war than the upper echelons of the military establishment. Right? Through satellite transmission and instant communication -- instant. I mean, it was real time. It was taking the military several hours to find out up through their chain of command what was going on. That will happen and is happening across all of our corporate bureaucratic structures today, and to the point where only through censorship and back to restructuring are we no longer able to handle that kind of instant communications.

Drucker says that in less than 20 years, our administrative lawyers will shrink by one-half. We're going to eliminate broad classes of work. Collection, processing, consolidation, interpretation and monitoring of information all gets eliminated in the 1990's as we move to more flatter-networked organizations.

Listen to those words again; I'm going to say them one more time because we're going to come back to productivity improvements in a little bit. Collection, processing, consolidation, interpretation and monitoring of information -- virtually all transaction processing.

The next thing you'll see is corporations moving more and more away from employment to contractual services. We're already seeing that with the new organizational environment and structures that are being created. They're not doing it with fixed labor; they're doing it through contracted services, creating much more flexibility in the work force.

Multiple careers for individuals I talked about. All of this leads down to the conclusion for the need for lifelong learning. That is the end result of all of these phenomena.

If you collapse down what the possible potential unmet need may be for higher education demand, Carol has put some of these kinds of numbers together. I think, to a large extent, some of the numbers may be more soft than firm, but what they do is give you an analytic framework, a conceptual framework for where there is a tremendous demand for unmet educational services directly as a result of changes going on in the way in which we do work.

You're going to have a whole group of people who are under-skilled and need new skills, who are under-employed, dislocated workers, re-entrants to the work force, new entrants coming into the work force annually, under-prepared workers, women entering the work force, disabled people of working age and, finally, immigrants. That is the demand function for higher education in the 1990's, and it sure is a lot different than 18 to 22-year olds.

Now let's move quickly to some of the impacts that the changes in the work force and its unmet demand will have on higher education as a system. I'm going to skim through these and then we'll open it up for discussion. I think by this time we're starting to get fairly obvious in the implications.

We'll be needing to prepare new entrants for the work force with the skills necessary in the information society -- teaching computer literacy, communications and technical skills. We have the same situation with displaced workers who will need to re-channel their education demands to get a new position in the work force. There's going to be a tremendous demand for assessment and evaluation of individuals to help them re-program or re-direct themselves in the work force and become productive. There will be basic skill teaching involved as a part of that.

For those in career transition there is going to be a tremendous demand for re-entry programs to provide a facility to take people from one career and gravitate and move them through to another -- hands-on, close, personal treatment of individuals. One-on-one or one on small groups.

As I'm saying these things, start keeping in the back of your mind who's going to be paying for all of these services. Okay? We'll come to that.

There needs to be much greater flexibility in the way in which and when we offer the educational services and where we offer the educational services and under what sets of conditions. There's also a movement back for women going after advanced degrees. Women my age, in their forties, who are going back maybe into the work force with a drop-out of 20 years. Frequently they're doing it for increased income earning.

Finally, there is a concept of professionals who have been working -- I have been working now for 25 years doing the same thing; I'm tired. I'm ready to drop out; I'm ready to try something different. I'm ready to go back to school for a couple of years. I am a tremendous potential applicant for higher education services.

Over the weekend, I spent time with a dentist friend of mine who is in the top 5 percent of all dentist wage-earners in the country. Top 5 percent. He's making good money. Great practice in the suburbs of Washington. He's going to drop out. He's going to collapse down his business; he's going to take off for two years; he's going to travel around the world. He's going to come back and set up his business doing something on a much smaller basis and he'll still be successful. But buried in there are tremendous educational opportunities.

Again, taking a look at the implications. We are now moving into an age in which we have got to be much better in focusing on what educational services we're providing and to whom and for what benefit. That leads us into differentiating our services. Many institutions are already doing a very good job of this, as small, private liberal arts institutions. One reason why they survived is that they did an exceptionally good job of defining why their education product is important, and they're making the case and they're selling it to their constituencies.

Community colleges are doing the same thing. I think large major research universities are. We will continue to see differentiation of the providers of educational services as they relate to the specific demand functions that we have been talking about.

The next point is increased accountability for services provided. If you are a community college in the inner-city of Los Angeles, areas where I have worked, and you've got single-parent mothers coming to school in the evenings after they've worked all day, and they are coming solely for the purpose of getting training so that they can become a health technician, there is a tremendous responsibility on the part of that educational provider of services to provide the proper and correct level of educational services to that individual. Up to this point in time we have not accepted that responsibility of making sure that the product we're offering gets received.

So we're going to move into areas of much greater accountability. We'll move into areas of assessment to make sure that the consumer of the educational product is actually receiving the benefits; and, also, we will begin warranting the educational service that we provide, or money back guarantee.

Those are really tremendous changes in the whole concept of educational services. Right now, there's not a contract, much, with regard to the student who comes and receives a service and the provider who gives the service, that there will be a certain achievement attained with regard to that transaction. There's no quid pro quo and there's very little responsibility. That will change dramatically in the 1990's.

Finally, there will be much more cooperative arrangements among the academic institutions as they try to consolidate their capabilities. There will be much increased cooperative arrangements with businesses. Businesses will be more interested in contracting for training, human resources skills, skills upgrading, as they find out that their workers are no longer disposable and that they've got to train their workers. And the way in which they drive productivity is not to get new workers but to take their existing workers and do better with them. Educational institutions are poised and are already beginning to provide those skill increases to businesses.

That is going to be one source where we'll find increased revenue streams for higher education, is in direct transactions with businesses for meeting the increased needs of their work forces.

This has all boiled down to what we as managers of educational services, how we have to change our behavior, and I have four points for that. Not surprisingly, these are what Mike Walsh talked about last night. He could get up here and say the same thing.

We didn't hear anything this morning about how well we're managing higher education. One of the reasons why we're not managing higher education very well is that we have not understood how to lean out the organization and make it as fuel-efficient as it possibly can be. We just have not had the impetus or the skill sets or the management philosophies to do that.

I know of examples with my clients in which we're still expecting students to wait in six lines to get registered. Other examples of where vendors are not delivering goods to universities because they're not getting paid on a timely basis. It's either COD or not. There are some basic fundamental things that universities and colleges are not doing just for running their businesses.

That is the point that Mike is going after with Stanford. You can see what he's doing. He's saying, "We'll get the business practices in order first before we tackle the more difficult academic ones."

Next is the increase of quality of services to clients. We'll have a clearer definition of what we're providing and why, and we will introduce the warranty programs that I was mentioning. The increase in use of technology and communications is the way in which we'll flatten the organization, lean it out, reduce the amount of time and energy going into transaction processing.

We'll consolidate library resources, and we'll begin delivering instruction -- we've started and will continue to deliver instruction at a much broader range of places, physical places through localized centers, through satellite transmissions, through videotaping. We will ultimately get to reducing the cost of instruction by taking better advantage of the technology and communication skills.

And finally, we will be driven, we will be forced to drive for labor productivity and efficiency improvements through increased quality of output and through some of these other factors that I was talking about which eliminate and reduce costs of processing and administration.

So, finally, you don't get to this point right here, to this page, until there is an economic incentive that you have to. And I think through the changes in the way in which we provide educational services in the 1990's, the only way you're going to fund the needs for those new educational demands is going to be through these kinds of efficiencies and productivity improvements and greater accountability.

So at that, thank you very much. Both Carol and I are open for any questions you may have.

MS. MacFARLAND: I'm Laurel MacFarland from the Brookings Institution. I wanted to ask both of you a question. I was interested in both of your talks because, on one hand, you seem to talk about the demand for enrollment in a fairly -- changes in demand for enrollment -- in a fairly homogenous fashion. And then on the other hand, in one of your last comments, Scott, you were talking about the growing differentiation in services, and that we'll see different institutions serving different needs and things.

And I was wondering if both of you would comment on the fact that a lot of the changes in demand and increases will be on certain institutions, proprietary schools, community colleges and so forth, perhaps rather than on four-year institutions. And given that these institutions are financed very differently, go to the market in different ways, are able to charge tuition in different amounts, those kinds of things and, also, the growing tendency of the federal government to try and isolate these institutions for different aid programs and things, particularly student aid, where do you think this is all going once you get below the level of the homogenous demand for enrollment and the impact on finance?

MR. HUGHES: Was that only one question? Let me go first. And given the amount of time, -- and I'm glad you raised this question first -- it's difficult to describe the differentiation in demand for educational services and how those demands will be met by different kinds of institutions.

There will be a broad variance in demand across types of institutions, regions of the country, and whether you're urban or rural. So there's nothing homogenous at all with regard to educational demand in the 1990's. I think Carol may say the same thing.

So when Carol shows you her model, one of the reasons why that model is so important is that individual institutions need to consider all of the variables, independent variables, that are ultimately going to drive their enrollment levels; and everything that we've talked about for the last hour is included on that chart.

I, for one, believe that community colleges are going to be the big growth business of the 1990's, particularly in the inner-urban settings. And I think that's going to come about not so much by federal policy --

you've got to remember I'm from California, and I have a different view of federal public policy than people living a little bit closer to the Potomac. But demand for higher education services and who pays for educational services I frankly don't believe is going to be determined upon federal policies.

When you take a look, again, at the single-parent female going to community college in the evenings or taking less than six units of class not qualifying for financial aid and still figuring out how to do it, I think that's going to be where a lot of demand for educational services is going to be. Businesses are going to pay for a lot of those services as well, besides the federal government.

Carol, do you want to talk about it?

MS. FRANCIS: If you look at changes in demand for higher education by field, we see we've already experienced extraordinary shifts in demand and responsiveness on the part of the institutions. The financial impact is that we're shifting out of low-cost programs such as education in foreign language and into high-cost programs such that require either high capital cost or high cost to compete with business to get people into. So I think we've already begun to see the differentiation.

Then, I think the institutions are really quite flexible -- or perhaps they should be more flexible --in responding to that demand. But we created a sector -- I think the community college sector was more or less created out of the GI bill. It responded to the needs in that era, but it was a factor in terms of the time. And I think the availability of student aid is a factor in the growth of the proprietary sector right now.

Peter?

MR. SMITH: I don't disagree with any of the input stuff that I've seen, and I missed the first part of your presentation. This isn't a matter of disagreement, but what I don't see being done here is any sense of really -- you take the inputs and then you're left with the things that should or will happen. But I do not see yet the information about how in the world, either through changed regulations, different incentives, different organizational cultures, different institutional structures, different instructional models, different evaluation models, how in the world these things are going to happen.

Specifically, my reading on it is that we have -- if you look at the profile of higher education today versus 40 years ago, it is obviously a dramatically different enterprise. Yet, the models for success that we have -- the whole system is still driven on the perception of prestige. And there are two dominant models of success that have prestige. One is major research universities; another is small, private liberal arts colleges. They survived not because they've done a damn thing except continue to do what they always did and have become more and more special simply by contra-distinction with what is happening in the rest of the world.

So you now have 85 percent -- I'm making these numbers up, but I'll bet you I'm sort of close -- of the institutions and students who do not fit the dominant prestige model of higher education, or 95 percent. But you have 100 percent of all the benefits, the psychic benefits of faculty self-esteem, institutional self-esteem, student self-esteem, community self-esteem, board self-esteem, employer self-esteem. You could take a kid and put him in Princeton and leave him there for years -- I know something about this, by the way, for a couple of reasons. Leave him in a phone booth, bring him out, give him a diploma, and he probably would have evolved, given that he read the phone book in the process, and he would go out and get a hell of a job because of the degree. It is a prestige-driven system.

MS. FRANCIS: And the network of alums hiring --

MR. SMITH: It goes way beyond that. You could put him on Mars and he would get a better job because of the diploma.

Now, my concern is this. Where is the evidence that we are working on a reward system or a financing system or new organizational structures that are going to, in any regard, say that higher education -- and I would include, to many degrees, community technical and junior colleges --are going to respond to the emerging need, as opposed to the corporate people I talked to are going to do it themselves. They're not going to waste time with higher education.

And my own deep concern is that when we talk about all the management structures, do we really have even 10 percent of our colleges ready to hire by contract, teach technically by video and remote instruction? Do we do it in places that are far away from campuses and have faculty and other organizational cultures at home that are going to tolerate that? New kinds of students with new ways of counting and learning, competency-based education. Do we have 10 percent of our colleges ready to do that? I don't think we have 2 percent.

So I'm left feeling as if -- I think the data is good; I think some of it's new. I think what you have done has helped me by giving me the next stick in the snow to look at, so we've come another three or four years.

But what I don't hear and what I would be interested in your response as I get to the end of this is where is, in any regard, the evidence that higher education as we know it today will develop new accountability structures that will, in fact, reward the work that 85 to 90 percent of the institutions do where the only allure of education is the quality of the learning that goes on. It isn't the football team, it isn't the prestige. The only hold they have is the perceived value of what they get there. And whether or not you see any hope at this point or where you see the hope that those institutions are going to be able to respond.

Because I think what's going to happen is the change around the institution is so dramatic that we are going to see havoc in inter-institutional relationships. I think we're going to see an increase in politics between sectors like you have not imagined beforehand. I think you're going to see warfare on the campus between the new curriculum -- and I'm not talking about politically correct. I'm talking about job skills. We're not talking about intellectual capital; we're talking about something very different, quite frankly.

I think we're going to see warfare all over the place, and no matter how hard the fight goes I think it's all going to go in the direction of the demography because, in the end, those 85 to 90 percent of students in institutions are the people who, in the end, talk to the people who make decisions, go and get the jobs. And I don't see yet how to leap over that chasm like a gazelle and see higher education just being so smart and so slick and so good at promoting their tellers and putting in ATM's and serving the public better the way banks have done, or firing their tellers and putting in ATM's.

Do you see any evidence that that is going to happen out there?

MS. FRANCIS: I've just spent a year working with the National Council for Occupational Education and working with individual institutions, and where you didn't have it at the institutional level you may have had with a driver of a particular department or particular people who saw it within the institutions. But I think if we move closer to value added rather than prestige as the measure of output and work with business to set academic standards and reward -- or at least explain what business needs out of the educational system, make that clearer, work with the media so that they understand the range and diversity of the institutions and don't always select only the prestigious institutions to follow, there may be some hope.

Scott?

MR. HUGHES: I'll make one comment, Peter. I agree with everything you say. That there will not be a rational transition from one mode of education to another. It will be a cultural revolution, which are the actual words that we use.

(?) Kerr says this is going to be the most dramatic change in higher education this decade since the second world war -- the GI Bill. We are entering a phenomenal period of time. We're seeing it in California. Let me just give you some ways in which this may unfold, and it is going to happen with the demographics.

The University of California educates 175,000 people. Community colleges in California are probably at 1.5 million. The ethnic minorities and the women are going to community colleges. We're getting ready to enter re-districting in California; there's going to be a dramatic shift in the economic and political power in California and in who gets funding.

Now, University of California is going to hold its own. We've got 175,000 people now and maybe 190,000 people in the year 2000 at University of California, and all the values and everything that goes on about those major research universities are going to stay the same. What I'm talking about, though, and I think what Carol is talking about is the huge demand function above that that is going to be met by other enterprises.

I'll close with this. Fax machines weren't worth anything in this country until they reached a certain critical mass, and then they (indicating). At some point in the 1990's we are going to reach a critical mass with regard to the educational demand function, and then politically and economically there's going to be a rush in the movement in to meet that demand.

MR. SMITH: I think we know what to do, but I would tell you that I am, with some exceptions sector by sector, not confident that we will be able to make the changes. For instance, I'll give you one issue -- the ability to assess experiential learning that is done outside of school and not under the sponsorship of institutions of education. We know a lot about how to do that in this country, and it has been found again and again that it works, that it is real learning, that it is an effective building block to further post-secondary education.

We should never talk to a returning woman or a returning student of any kind without giving them, through portfolio and other kinds of assessments, the opportunity to understand what they already know and have learned and can do because of the variety of experiences they've had so that we, one, don't duplicate them, which is wasteful; two, so that we dignify them as learners; three, so that we empower them to the understanding that they, in fact, have learned and changed.

It won't happen in California for those 1.5 million people, which is exactly who it has to -- the war that is going to go on is with the established norms of the institutions. And, I think, among others, the non-prestige driven parts of our system which have been forced historically to accept the prestige norms and ways of doing business is the only way to have their self-esteem be above the neutral level.

And so the way of coping with the demand, as I understand it, the things we know and the directions we think we ought to go, if we could just start again with a clean table -- I think it's going to be enormously difficult. And when the public sees that kind of dysfunction in higher education, warfare I'll call it, havoc, it's a little bit like trying to predict what's going to happen with the Soviet Union.

MS. HANSEN: I hate to have to cut this off because this is so interesting, but because we have a luncheon speaker I need to let you go to the next event. Lunch is in the Capitol Room.

(Whereupon, at 12:00 p.m., the workshop was recessed.)

LUNCHEON SESSION

MR. HARRIS: It is my privilege to introduce Christopher Cross. He holds a bachelor of arts degree in political science from Whittier College and a master's degree in government from California State University at Los Angeles.

He has been in the government since 1969. He has had a variety of very important positions. As I look at his resume, which he has condensed, he was named the Deputy Assistant Secretary for Legislation in the Office of the Secretary of the Department of Health, Education and Welfare. He is one of the individuals, who advocated the creation of the National Institute of Education.

He was appointed by President Bush in 1989 and he is now the Assistant Secretary of Educational Research and Improvement.

Help me welcome Mr. Cross, please.

(Applause.)

MR. CROSS: Thank you, Caspa.

I should amend the introduction to clarify I haven't been in government all that time since 1969. I was in the government about ten years, having spent the major part of that time working on the staff of the House Education and Labor Committee, where one of the people I worked with, in fact, is the speaker who will follow me today, Senator Jeffords, and had an opportunity to come back in the government about 18 months ago now.

I do want to, on behalf of the Office of Educational Research and Improvement in the Department of Education, welcome all of you to the conference. I particularly am pleased that in this meeting that you are having an opportunity to talk about your experiences and the insights that you have gained and how you can put these to work to make this conference a critical turning point for American higher education.

I want to thank the College Board and NACUBO for their co-sponsoring of this symposium with OERI. We certainly appreciate the time, the energy and the investment, which you have all made in turning this symposium into a reality.

You have certainly put together a fine slate of excellent speakers and panelists and papers.

Now, college costs and institutional quality, as well as rising tuition rates, financial aid, student access, educational attainment and the financing of research and facilities at institutions of higher education have all been issues of long concern to the Department.

Although we have had federal support of higher education since the Morrell(?) Act over 125 years ago, it is only in the last 25 years that we have had large scale aid, particularly aid directed towards the support of students. Indeed, it is now almost 20 years since the basic grant program, now called the PEL Program, was passed. Much has changed in these past decades and today we recognize that the time has come for a fundamental review of federal policy with respect to higher education generally and the support of students specifically.

We have a nation today that is firmly committed to the improvement of education and to the notion that education is vital to personal development, economic fulfillment and our international status as a nation. We have national goals for education, which while focused primarily on elementary and secondary education, have enormous implications for higher education.

For example, where will we find the teachers we need to improve instruction at the pre-college level? And what is the role of higher education in fulfilling the goal of lifelong learning?

We are also faced with demands from political and business leaders for improved productivities at all levels of education, specifically at the higher education level. All of these factors have combined to create a lot of confusion for federal programs, confusion for policymakers and have created added pressure for the colleges and universities themselves.

One of the results of all of this has led to passages of such things as the new law on student right to know, which was passed at the end of the last Congress. I believe that times are really right for a concern for financing and for management in institutions of higher education, by examining some of the best and most current research on higher education finance.

By engaging in spirited dialogue with the speakers, panelists and each other and by having all of us, policymakers, practitioners, researchers, corporate leaders, association and foundation representatives and state officials, collectively explore the current issues and share our new-found insights with our colleagues back at home, we can meet the challenges before us and secure a brighter future for American post secondary education.

I am pleased to have you here today and I look forward to hearing the rest of your conference.

Thanks.

(Applause.)

MR. HARRIS: Thank you very much, Chris.

Tomorrow, the National Commission on Financing Post Secondary Education has its first meeting and I am not sure that that is accurate, after chatting briefly with the Senator, but today, by a happy coincidence, we are fortunate to have as our luncheon speaker the man who helped establish that commission, Senator Jim Jeffords of Vermont.

Senator Jeffords has a long-standing interest in higher education. It was his legislation four years ago that established the commission that will assess the responsibility for future funding of post secondary education by examining the roles of government, students, families and institutions of higher education.

When he was ranking Republican on the House Education and Labor Committee, Jim Jeffords was instrumental in moving an amendment to the National Science Foundation legislation that authorized funding to revitalize the research capabilities of our academic facilities. As a result of his work, the Academic Research Facilities and Modernization Act became law.

As House member, Jim Jeffords also was vigilant in working to ensure that student grant and loan programs were equitably administered and accessible to all those in need. His work was especially evident in the PLUS Supplemental Loan Program, where his efforts helped to make parental and student loans more affordable at prevailing interest rates.

Elected to the Senate in 1988, Jim Jeffords succeeded another champion of higher education, Vermont's senior Senator, Robert Stafford. Senator Jeffords is now a member of the Senate Labor and Human Resources Committee and is a ranking member of its Labor Subcommittee. He is also a member of the Environmental and Public Works Committee and the Senate Committee on Veterans Affairs.

The Senator maintains a strong interest in higher education, however, through his membership on the Senate Subcommittee on Education, Arts and Humanities. Before coming to Washington, Senator Jeffords was Vermont's attorney general.

He is a graduate of Yale University and he holds an LLB from Harvard Law School and he is currently a captain in the U.S. Naval Reserve.

Chatting with the Senator he has indicated that he did not come here to hear himself speak. He is going to give a brief speech, but the importance to us and to him is for him to hear you. So, I have come to the conclusion -- you all know about asking the questions, coming up there -- those of you who don't want to ask any questions, I will accept a hundred dollars at the door for your lunch. So, with that, join me in welcoming Senator Jeffords.

(Applause.)

SENATOR JEFFORDS: Thank you very much. It is a pleasure to be with you and this is a very interesting time for higher education. I will have some remarks to make and then I will open it up to questions.

I came just amazingly close to being the ranking Republican on the Education Subcommittee. You may not realize that -- in my first term. And you might wonder how that could possibly come about.

Well, there is one you learn is that there are some committees, which Republicans don't really enjoy getting on and one of them is the one that deals with all the business/labor issues. I won't say it is the education issues, but they -- you are always voting against the things that everybody else seems to want. So, I was the most senior coming in, other than Trent Lott, and so I was standing right in line and the position was open and I was chomping at the bit to be the ranking member and all of the sudden Nancy Kassebaum took a look and she said, "Oh, my gosh. If I move over to that committee, I can become ranking on the Education Subcommittee." So, I came -- and what was my reward for that?

I am now ranking on the Labor Subcommittee with Senator Metzenbaum. So, that is not exactly what you call second prize, probably twelfth prize. But anyway it has been a fun time, to say the least.

But I am going to talk with you a little bit about the financing of research and scientific and instrumentation facilities as my assigned topic. But before I do that, I want to talk a little bit more generally about education and the future of higher education.

You know, we are all involved with the Gulf War right now and I get up early in the morning and go to bed late at night watching that war and, of course, it is critical to us right now, but we have to look beyond that war and remember just where we were a year ago when we had a whole new world order and certainly the Gulf is a part of that, but where the Soviet Union, at least at that point, a little less firm right now, was embarked upon a whole new attitude towards world politics and life and all and things seemed to be moving right along. And they still are.

I don't believe that there is anything that has deferred us from that, but we do have to look ahead now of the Gulf War, which hopefully will be over very quickly, and understand that as whereas the military wars are over, the economic wars are certainly right on the forefront as we look to the future. So, the days of just being able to sit back, as we have in the past, of being able to be the number one economic power in this world has diminished and we have watched our standard of living diminish somewhat also over the past few years, as our economic competitors have taken advantage of our need to so strengthen our military.

What is the answer and what can we do about that situation? Before I mention that, there is another area where we are going to see economics play a role in a different category, which may lead to some more of the military aspects, but to haves and the have nots, and as long as we have haves and have nots, we are going to see frictions and, thus, world leadership on our part is to do what we can to diminish the number of have nots and to strengthen the haves, but at the same time remember that we have to be the haves of the have, as far as I am concerned and I think all of us are. We have to maintain our economic strength.

Well, how do we do that? We do it through education. That is the only way we can maintain -- we are not that many, you know. We are only 250 million people out of the billions that we have in the world. So, education is the key to that. But right now what I am concerned about and my main message here is that we cannot let anyone to forget that and there is a tendency now, during this budget period, to become so consumed with the deficits and the need to live within certain constraints that have been imposed upon us by the Administration and the Congress to forget that we have to speak out and make sure that the goals of the country can shift in the terms of budget, as well as they have in the terms of need.

The need for higher education is recognized and education generally is recognized to be a top priority of this country, but right now the constraints that are imposed on us by budget thinking make it impossible for us to readjust priorities unless we fight. That is the message that I have for you today is that we have to remember that we cannot just let the budget dictate what we do.

As the world is rapidly becoming one trade zone, where nations must compete to survive, to maintain our standard of living based on higher wages, each of us must outproduce our foreign competition with equal or better products. Trained, efficient employees, who can learn, perform and grow on the job will stabilize costs and bring quality products to the marketplace.

At the same time, a majority of workers entering the labor force for the first time over the next years will be women and minorities. Providing quality education to traditionally disadvantaged students will continue to be a priority. Employers are ready and anxious to higher those who can acquire the education and skills needed. Skill shortages are occurring, while we have large numbers of people at risk of economic disadvantage because they do not have the combination of education and skills needed to work in today's technological environment.

Young people must have the opportunity to be trained and educated to prepare them for tomorrow's jobs. They must be able to grow and to change with the evolution of technology and the world economy. Knowing how to read, comprehend, compute, reason and analyze are fundamental.

But cuts in funding and shifts from grants to loans have raised concerns about student access to higher education. Short falls in funding have further eroded the capability of universities and colleges to modernize and revitalize their science and math facilities.

Higher education is vital, as I have mentioned, to keep the country economically competitive, as well as to providing a genuine opportunity for our young people to gain knowledge and skills for self-sufficiency. Federal financial assistance has allowed millions of students the opportunity to forward their education. Often, student assistance has targeted the disadvantaged, who have previously been excluded from the mainstream of American life and brought them into the nation's schools and campuses.

At a time when the United States faces increased competition from abroad and demographic changes at home, we must ensure that our young people continue to have these opportunities and access to higher education.

Now, let me go over some of the problems that have been created by the fact that we are having so much dictated to us by the budget problem. Sadly, however, the budget woes of the country have taken their toll on the opportunities available to young people. Changes in the budget procedure, as well as caps on domestic spending have all impacted the future of our next generation.

First, let me give you a quick summary of the changes in the budget package. A lot of these escaped notice as this whole big packaged rolled by us last year. Amendments to Gramm-Rudman placed caps on discretionary domestic funding. Effectively, those amendments removed the option of cutting defense spending in order to increase domestic outlays. We walled it off.

Now, if Congress increases spending for education, the money will have to come out of other domestic programs, such as AIDS research or housing or all those other critical needs that people have a tendency to focus their attention on. Also included with the Budget Enforcement Act is the treatment of the federal credit activities. Beginning in fiscal year 1992, the Federal Credit Reform Act provides that the budget cost of credit programs be long term costs to the Federal Government on a net value basis.

In other words, appropriations must be enacted to cover the cost of the direct loan and loan guarantee programs for the life of the loan. That means the defaults have to be included up front. I am not sure what that means and we haven't been told what it means yet, but it obviously can be a very serious problem to us.

Another aspect of budget reform is the pay as you go provisions. While this method is fairly self-explanatory, the effect is a little less clear. In general, however, it means that no program can incur new costs without including methods to finance those costs, whether cutting other programs within committee jurisdiction or levying new fees to sustain the price tag.

This will certainly be unwelcome news for new entitlement programs. Now, what is the President's budget outlook? What has he shown us as to what is going to happen from his perspective?

Even with such a gloomy outlook, the President's budget proposed significant increases for science and technology and he recognizes what I referred to, that this is so critical to our future. While this is welcome news, the increases are mainly in the form of grants to individual researchers, not to institutions.

The Administration's budget represents an 8 percent increase for basic research or 3.9 percent above the inflation level. Some highlights of this budget proposal are as follows: An increase of about 17.5 percent for the National Science Foundation, including an increase of about 18 percent for grants to individuals; an increase of about 6 percent NIH; an increase of 71 percent in the Department of Agriculture Competitive Research Program and a cut of 10 percent in basic research spending at the Department of Defense and large increases for three federal efforts that cut across research agencies, global change research, science and mathematics education and a program to prepare the way for the next generation of supercomputing systems.

While the President's budget is encouraging, it has been received with mixed emotions from the higher education community. Concerns have been voiced that of the Administration's 17.5 percent increase in the NSF budget, much of that is targeted to the superconducting supercollider. To many, this proposal overlooks small science and it allocates too much towards costly large-scale developments.

Furthermore, the NSF is funded out of an appropriation that shares jurisdiction with veterans in housing programs in the Congress. Many higher education officials fear that the large increase for such big projects will face tough competition with the needs of veterans associated, for instance, with Operation Desert Storm.

I must say that one of the things you have noticed here on politics and certainly it is very worthy, but so many who voted against Desert Storm are looking for ways to look good back home, that there is such an incredible desire to pass anything out that comes along, regardless of cost and regardless of how it fits into national priorities, that we are really having a problem to watch that aspect of the budget.

Another argument particularly of interest to me is the fact that no money was allocated for research facilities. On one hand, the Administration proposed a new $25 million program to renovate facilities for agricultural research but nothing for others. And the President called for a new $50 million program at the National Science Foundation to help colleges develop and acquire state of the art research equipment. Well, that is fine, but I know what that means, and I think you do, that those that already have the facilities will get the money for that equipment and what it doesn't mean is that those who need the facilities, and so many of our institutions do in this country, in order to have that equipment will not get it.

So, we will have the haves getting a lot and the have nots really getting nothing.

On the other hand, the Administration proposed no money whatsoever for the NSF's two-year old program, the one that was mentioned that I certainly helped get through, for renovating academic research facilities of all kinds. We got an appropriation of $20 million for the first time last year and Barbara Mikulski was very, very helpful in that regard, but you know we have got a $4 billion need out there. Twenty million, you can't kick it, but it is a far cry from what is needed in order to get our basic research in our universities and colleges that do not have the advantages of M.I.T. an option and we all know that 50 percent of our college graduates that go into graduate work in this area come from institutions other than those that are so gifted at present.

Moreover, in its official budget documents, the Administration appeared to argue that universities need for improved academic research facilities was not the Federal Government's problem. That is somebody else's problem. I don't know who.

Special programs -- I am quoting now -- for facilities repair and renovation are not warranted because the Federal Government directly supports only a small proportion, less than 10 percent of this activity, which is totally ignoring the problem, obviously.

As Patrician Warren, the director of Higher Education Curriculum on Science Facilities, stated, it is like saying we haven't been doing what we should be doing; therefore, we don't need to do it. However, it doesn't require a great deal of skill to see the worsening condition of science education in the country.

Well, I can't tell you off the top of my head how many students are studying science nor the number of teachers teaching science. I can tell you that America is having difficulty remaining competitive in a world of increased technology and our ability to fill highly skilled technical jobs has declined rapidly.

It doesn't take much studying to determine that situation. In most instances, it is right on the front pages of the newspapers. Yet, to continue to remain competitive, we must be able to train our future scientists. How do we train our young people if they do not have the facilities to train in.

For this reason, during the 99th Congress, I initiated the Academic Research Facilities Modernization Act, which was referred to, and that is, of course, just minimally funded now. This does, though, establish a program to award grants to universities and colleges and independent non-profit research institutions for repair, renovation and exceptional cases, replacement of obsolete science facilities.

The tragic state of our university science facilities attests to the growing need for funds to rebuild our nation's basic science infrastructure. A survey of private colleges and universities shows that only 10 percent of these institutions rated their science facilities as state of the art, while more than 40 percent of the institutions rated their facilities as inadequate to meet the current teaching needs.

The problem is particularly acute in the small colleges that do not have large outside funding sources. However, it is precisely these colleges that are producing the greatest number of future Ph.D. candidates in science. It is imperative, therefore, that our undergraduate science facilities be as up to date as possible to educate and train tomorrow's scientists and engineers.

This program is crucial not only to our universities and colleges but to the competitive nature of our nation as a whole. Last year, the President's budget included money for facilities renovation and upgrade; this year, the President proposed zero. To me, this is a travesty. Clearly, an increase of interest in math and science will get us nowhere without the facilities and the equipment to do it.

It is the overall picture that we must continue to focus upon. Not only is this country in dire need of math and science teachers, graduates and researchers, we are also in need of improved facilities and equipment.

Now, we are moving into the higher education reauthorization and, again, I want to focus on the fact that really we cannot allow ourselves to be driven by the budget deficit to lose sight of what we need to do. And I am very pleased that we finally have the higher education looking towards the future and the next generation, how we are going to fund coming into being.

Peter Smith, who is here, is the executive director of that and they will be meeting tomorrow and I will be speaking to them. But to me it is incredibly important that we look to the future and see what we can do and what must be done to make sure that the young people of the next generation, as well as we stagger onto that time, are placed in a position where they can get that higher education they need and, as well, the skill training. And we have to take a look at perhaps those in two different directions at this time.

But they way we are going now, there is no way that we are going to be able to afford as a nation and not as a nation but as a family that kind of higher education and the kind of access that we need to higher education.

So, I am hopeful that we can get out of it. Now, in the short run, we also cannot get bogged down in the technical aspects of the programs. We must also look to the future and, hopefully, we can make sure we mold whatever we do this time to lead us in that direction and what that direction must be. To me, it must be sort of reversing the trend of all loans and no grants basically and getting this more in line, at the same time making it possible in another committee to save and for families to save as they go towards helping their own young people out.

But we also must realize that we do have problems with our funding at the present in trying to delineate better the differences between skill training, higher education and all and the financing for that as well as to try to ensure that we do not in any way seriously hamper the present methodology for giving young people a chance to access the higher education of their choice.

So, again, I want to go back to the beginning. If we are going to maintain our economic superiority, we cannot let higher education be driven into a lower priority to the deficit, but we have to fight to ensure that it maintains its present and has a growing priority. For our economic survival and our national survival depends upon that, not only in terms of economics but in the terms of politics and philosophy. We must have the kind of strength, economic strength, that we can demonstrate to the world that the democratic form of government is the kind that is the key to success, to ensure that the haves and have nots reach some sort of a parity.

I guess my own philosophy I always use in these cases is that the best defense is a good offense. So, I intend to come forward and say the heck with the deficit, the heck with the problems of balancing the budget; at least, let what I feel has to be done to place us in a position where we can continue to be the leader in the world, not only in the military sense, but in the economic and the political philosophy sense as well.

So, with that opening, I would be happy to answer any questions you might have and be pleased to hear from you.

MR. FORD: Fred Ford, Purdue University.

I would be interested in how we can help you do just that because the speech you gave, all of us could have written a similar script.

SENATOR JEFFORDS: I am sure.

MR. FORD: And you touched on all the things that we worry about, but, yet, in our discussion this morning and in other discussions we have seen where Congress has an attitude toward higher education that many of them feel we are not managing things well. Many of them -- much of the legislation that touched on us lately has been restrictive and controlling and so forth.

I wonder if you could give us a few tips as to things we could do better to improve our relations with Congress?

SENATOR JEFFORDS: Okay. First of all, we have to get the facts out. And the facts as presented make things look terrible if you don't understand what they are. They will tell you -- they will take a look at the total amount that we are having to pay out in defaults and they say what a horrible thing. That is 45 percent of our budget. Well, that makes it seem like 45 percent of people are defaulting on their loans. That is the public perception.

But if you examine the facts, you find that we are doing no worse than well-managed banks and we are doing an awful lot better than Visa -- well, of course, that wouldn't mean much.

(Laughter.)

It is kind of an oxymoron, I realize. But we are doing probably two or three times better than Visa and Master Charge are. Those are the kinds of things we have to get out because there is that misunderstanding. Oh, my God, everybody is defaulting. This is terrible.

But when you have got billions and billions, hundreds of billions, I guess, out there floating around, you are going to have some defaults. So, we have a misunderstanding and a misconception of how serious the problem is.

Secondly, we have to come forward with constructive programs on how to control those problem areas we have, mostly in the proprietary school areas and things like that. I think we may have made some good inroads on that in the past. And we can't fail to make those kind of changes.

But at the same we have got to recognize and make people recognize that the future of the country depends upon access to education and we have to come forward -- because there is an understanding out there now.

One thing we found, for instance, the first hearing we had, had CEOs pleading with us. You know, that is a change in attitude over the last couple of years. In fact, the first group that met me when I became a Senator were CEOs and I didn't know what they were coming in for. I thought they probably had some -- wanted lower taxes or whatever and they said we have got to improve the funding for Head Start. And it amazed me and it took me awhile to recover.

But they were in there serious. So, there is that understanding out there that we do need to improve education and higher education and we have got to just go on the offensive. We can't be defensive on the facts. We have to get the real facts out there and we have to remind everybody to get their eyes oriented in the right direction. Now, whether or not we can successful to any great extent, probably not, with all these constrictions we have in the budget right now, but at least and hopefully in the future as we move along, if we don't stop reminding everyone, we can see improvements. At least we can reduce the damage.

MS. MAYDEW: Mary Jo Maydew from Mount Holyoke College.

Senator, one of the aspects of the reauthorization discussions that have many of us, especially those of us from selective schools, nervous is the idea of tying federal financial aid to -- or the withholding of federally-based financial aid to just some lower tier of the student body at any particular institution.

Would you like to comment on what some of those discussions have been and what your perspective is on them?

SENATOR JEFFORDS: What the concessions have been?

MS. MAYDEW: No, what the discussions have been.

SENATOR JEFFORDS: Discussions. Well, we are just beginning to have discussions, but as you get the budget crunch, there obviously is a move to say, well, if we have to take care of anyone, we have to take care of the economically disadvantaged and the others are going to have to fend for themselves. I think that is a very dangerous attitude.

And also we have, which I hope the commission that has been set up will take a look at. We have had some real changes in the legal status of young people now, which has not been dealt with. And that is at 18, your parents are no longer financially responsible for you. So, what we have done is we have tried to grab a hold of the all-American families I call them, the ones that always used to support their families and we tried to drag them along as long as we can. How long that is going to occur, I don't know. And I haven't seen the recent statistics on independent students.

But it doesn't take anybody too long to figure out with a little mathematics that it is a lot easier to kick Johnny or Jane out and to finance them under the table and take advantage of the program and consider them economically disadvantaged. We have to figure out how to deal with that.

The only way we can deal with it to me is across the board access through a grants type program as we move into the future and then let the families worry about where they live, perhaps, and perhaps also, of course, have to worry about it -- you can't finance every institution at the most, but we have to -- I think we have to recognize that as we go to the future if we are going to have that kind of access and the ability to be able to afford to, that we have got to increase our grant program across the board because there is no legal liability now and people take advantage of the system.

MS. MAYDEW: Thank you.

May I ask a follow-up question, please?

One of the new conversations that has been part of the reauthorization discussions is expanding on what I would call the satisfactory progress, satisfactory academic progress, regulations that are in place now and talking about establishing a group, a lower -- lowest 10 percent of the class as being somehow ineligible for future financial aid as a way to encourage performance as a component of aid.

I think that has a lot of us concerned and I would be interested in your reaction to his as well.

SENATOR JEFFORDS: Well, it has me concerned because you can't say that we must help the economically disadvantaged and recognize that many of them are educationally disadvantaged and then say that we are going to -- if they do make it, struggling as they have to, then we are going to weed them out. That seems to me to be very much of a conflict in policy.

Secondly, how do you measure one institution against another? That becomes incredibly difficult to establish a national level within each institution. I am sure that Harvard would say that their lowest 10 percent is probably capable of getting a higher education somewhere and shouldn't be eliminated. So, I don't know how you do that. And I think it is a bad policy.

There is no question that we have to look upon the institutions to ensure that they are not taking advantage of the situation by having students in there, who really are there only to provide financial aid and those kinds of things have to be dealt with, but I don't think you can do it with that kind of an arbitrary policy.

Yes?

MR. LIEBERMAN: Dave Lieberman from the University of Miami.

The Federal Government contracts with universities for research and one of the boring topics is indirect cost recovery. It used to be anyway. I don't know whether it will remain that way or not.

SENATOR JEFFORDS: It is not boring any longer.

MR. LIEBERMAN: Yes. Would you share with us your thoughts on higher education and indirect cost recovery issues and what the outlook for it might be?

SENATOR JEFFORDS: No.

(Laughter.)

I hate to be that brief but I really can't. I can't give you anything erudite or otherwise, so I usually -- in my mind, the best thing to do is not to say anything under those circumstances, but I appreciate your question. I understand what you are saying, but I don't have an answer.

All right. Well, thank you very much. It is a pleasure being with you and I deeply appreciate all you are doing to try and make this country a better place and I think you for it.

(Applause.)

MR. HARRIS: Thank you very much, Senator Jeffords.

At this time, this will conclude the luncheon program and we will then move into the next session.

(Whereupon, at 1:20 p.m., the luncheon session was adjourned.)

PRODUCTIVITY

MR. ROGERS: We are going to spend the rest of the afternoon speaking about productivity and, hopefully, managing some of the costs and issues that we have talked about last night and this morning.

I think Caspa set the right tone for this whole meeting when he said yesterday that there were strong winds of change in higher education. Surely, I think, everyone here does not feel that the next ten years will be a lot like -- in many financial ways anyway -- the last ten years that we have been through.

I know many of us were struck by Mike Walsh's comments last night about the impact of leadership on institutions and what really can happen with leadership and vision and in some ways what will not happen, in spite of all of the rest of our efforts without leadership. In some ways that second part of his message, I think, was more powerful than the first, things that from his experience, both at the railroad and at Stanford, didn't happen for a lot of reasons, in spite of knowing what to do.

That really, to me, is the heart of the set of issues that we are going to speak about this afternoon. It is well enough to know what to do. It is fundamental in the end to be able to do it and how to do it. But before we get to that, there is a major question of knowing what to do.

NACUBO has been involved in cost reduction for a number of years and someone mentioned that this morning as a laudatory effort and, yet, we come to the end of the eighties with the sense, at least, in many parts that we are not well-managed, that our costs are not well-constrained and you ask how can that be if we have spent so much time trying to constrain them.

One of the issues that NACUBO is actively engaged in the Financial Management Center and one of the issues that I hope, as the current chairman of the Financial Management Committee -- and I say that with some humility as there is at least one or two other chairmen of this committee here from prior years and it has a long-standing record. So, this isn't anything we have invented lately, but an ongoing issue is to try to really define for our membership and for institutions of higher education what it means to be well-managed. What is it when we are all said and done that we are doing when we are doing our jobs well?

Is it really just minimizing campus conflict or is there more than that? And I think we all believe there is more than that and that more than that doesn't show up often in the short term headlines and issues and discussions and sometimes appointments and personal rewards for people, but there is more to that.

NACUBO is very committed to trying to work out this issue of what does it mean to be well-managed, what can we as a group do to bring the best of these management practices to our campuses. I would add that we are also trying to look more continuously at issues of structure, issues of process, issues of things that we can do about institutional and state financing structures that will incorporate the kind of learning and research that has been done on incentives and on management and on organizational development.

I am constantly struck by the difference between what goes on in the research world and what we talk about at meetings like this and the practice that goes on in many states and on many campuses, where, you know, people are really doing things for a lot of reasons that have to do with history and have to do with relationships, that they and we all know are not the best practices, based on how it is that institutions are effective, that people are motivated, that incentives lead people to put into practice the best that they know.

So, that seems to me to be a part of our challenge and a part of the issue we need to think about this afternoon.

Lastly, I would just say that one of the issues on, I know, the Cornell campus and on many campuses where I have spoken with people, is the feeling that, yes, we need to do something, but do we really need to do a lot? I mean, that could be painful. That could really require us to change a lot of things and, in fact, we have been here for a hundred or two hundred years or fifty years or whatever, and we have been, as was said this morning, fairly successful. And, in fact, it is, all things considered, fairly comfortable to be as successful as many of us feel to be.

So, the need that somehow some of us or some of the circumstances would indicate for dire reconsideration or major change in organization is not a need that seems self-evident or one frankly that is very welcome in many circumstances. So, I would say the last issue before us is really the process by which we develop some campus-based consensus for the need to change and for the directions in which we can change that will be most constructive to what it is we are all about.

That sort of leads us back to a beginning question of what was it that we were all about and are we moving toward that. Maybe with that kind of an introduction, we will have Bill first talk to us about the experiences for seeking to contain costs and enhance productivity at Stanford. Then we will take a break and we will come back and we will talk about the same processes in the public arena.

Bill, they gave me an introduction for you. I feel hardly the need to introduce you to this group. People do have your biography and you have been around this process for long enough that I think everyone here knows Bill Massy. Let me just say maybe one or two things that some of you have not caught up with lately.

Bill is the director of the Stanford Institute for Pugh Higher Education Research and he is also, I think, still continuing as the chief financial officer of Stanford, although I hear different things from him about that as to how long that will go on.

He also continues as a professor of education and business administration at Stanford University and is now heading the newly-formed Higher Education Program in Administration and Policy Analysis at the Stanford School of Education.

Bill is the author of or co-author of seven books and 50 articles and many of you have read them, as I have, over the years and I think profited from those insights.

So, we are looking forward very much, Bill, to hearing from you today.

Thank you.

MR. MASSY: Thank you, Fred. It is a pleasure to be here. It is a great pleasure to follow on in Mike Walsh's footsteps and continue, I hope, in the theme that he began last night. This is certainly a more pleasant subject than the one Dick Anderson asked me to speak about briefly this morning. I am glad we got that out of the way.

I want to talk about the causes and cures of cost escalation in administration and support services at Stanford. That is another way of talking about productivity, which one of the things we learned from Mike last night is that productivity in higher education is -- whatever else it may or may not be, it is not an oxymoron.

Management of change is where it is at and productivity is one of those areas where change is necessary in the view of many and in my view, I might add. I am reminded of the story of the university president, who was appointed and when she came on board, her predecessor gave her three envelopes and said, "Now, put these in your safe in your office and when things get tough, you open them and you will notice they are numbered, 1, 2, 3. Be sure and open them in the right chronological order."

So, she did and the first crisis came along in due course and it was a really tough one and she pulled out the envelope. It said, "Blame it on your predecessor." So, she did and the storm passed. The academic set had calmed and the board went forward and some time later the second crisis came along and it was even worse than the first. So, she remembered the second envelope and took a look. And it said

-- it was good advice -- it said, "Blame it on the government." And she did and the storm passed and things went on.

Finally, the third crisis arrived and this was now well into her presidency, but the third crisis arrived and it was even worse, of course. In the desperation as she was heading off to the board meeting, she remembered that envelope. She stuck it in her purse and went off and just when the going was really tough she remembered and she looked down and she opened it and the members of the board were rather puzzled because she just got up and left the room. That was the last they saw of her.

All that was left was this scrap of paper on the floor that said, "Prepare three envelopes."

(Laughter.)

The problem nowadays is that the first two envelopes don't work. That is what accountability is all about. What we are being asked to do is to shape our institutions, not to find people or things to use to explain away our failure to shape them. That is what Mike's message was all about last night and I can tell you that with Mike as a trustee, you don't get very far in trying to blame it on your predecessor or blame it on the government.

He has been there. He knows. There are more and more trustees like Mike, trustees who believe that they have a strong stake in helping the institution get it right, not to manage it, but to goad the administration, if you will, into doing the right thing and holding them accountable for doing it or, as we said in a recent issue of Policy Perspectives, the Pugh Higher Education Research Program publication, in describing that little story on the front page of the last issue -- some of you may have seen it -- it said it is very simple how you balance a budget. In the end the board just tells you to do it.

That is what happened. Mike was chairing a committee, he and some of his colleagues, and in the end in just some quiet conversation, said please balance the budget and by implication, you know, if you don't, I will. That is okay. We will find somebody who can. I mean, it is very, very simple. That is accountability.

I want to talk with you, though, about a bit of the problems in the administrative and support services side and I want to concentrate on A&S or A&SS, as I call it, not because I think the academic side is unimportant. In fact, to answer a question that was asked of Mike last night, we have not yet addressed the academic side at Stanford. I believe we are going to have to in fairly short order. I am only addressing the -- I am addressing the administrative and support side here because that is what I was asked to do and I believe in accountability and I do what I am told.

So, Anna Marie, if you would put up the first real transparency.

This is the record of cost rise in higher education. This comes from the latest Policy Perspective issue. You may have seen it there. The annual real cost growth in higher ed from 1975 to 1986 -- it is relative to the CPI, percentage amount over the CPI -- is as you see it in the first row there. The types of schools are along the columns. Here, way on the left you have the lowest price private colleges, PR1s. PR2s are the medium-priced private colleges; PR3s, the higher priced ones, the Williams, the Amhersts and so forth. The PRVs, RPRVs are the private research universities, Stanford, Harvard, M.I.T. and so forth.

The RPUBs are the public research universities, Washingtons, Wisconsins, Californias and so on. And by the way, the research universities we define for this purpose as the members of the AAU and divided them up as between public and private.

The land grants are the land grant colleges that are not AAU members and the state colleges and universities, the SCUs are the ASQU members that are not land grant. So, those are what the categories are. These are compounded real growth rates, over an 11 year period and you see that they are -- they are fairly substantial and, indeed, when you normalize by FTE student, they are still fairly substantial.

It is never clear how you normalize for FTE, so I don't want to get into that argument, but the point is it doesn't really make much difference whether you normalize or not; therefore, it doesn't make difference how you normalize. These are significant numbers and as they say, you know, you have a few percent here and a few percent there and you compound it over 11 years and pretty soon it is real money.

And, indeed, if you take the research privates in the 3 and 3 1/2 or 2 1/2 or somewhere in between, in 11 years that compounds to almost 40 percent and that is a change that can be interpreted as a productivity decline. These are education general expenditures as a productivity decline -- now, we, of course, be quick to add that there has been quality improvement over this period. So, on a quality adjusted basis, it may not represent a decline but from the standpoint of the payers, they are asking whether or not they are getting value for money at the rate of 40 percent more than they did a decade ago. And I think we have to seriously ask whether in terms of the goals of our clients -- Mike uses "customer," I like "client," but it amounts to the same thing -- in the view of our client, whether or not we, in fact, are delivering that much more value for money or even any more value for money than we did ten years ago.

Now, the last row in the table is another very interesting phenomenon. Where did this growth come? And if you take the academic growth rate and subtract from it the administrative and support growth rate -- that is what that -- the dash in the front is a minus sign there -- you get these numbers and negative numbers mean that the administration grew faster than the academic and, indeed, it did in all but one of the categories.

Now, that is consistent with what Carol Grasmick(?) found in her article in the -- her research written up in the Chronicle of Higher Education. We found that at Stanford when we looked at our growth in employment numbers over a ten year period. The administration had grown significantly faster. In our case, I think the ratio was 4, 4 1/2 to 1. In Carol's case she found 10 to 1. So, we were better than the average, but still not very good.

What has happened here is that the administrative and support processes, there is something going on that has caused that to grow disproportionately to the academic program. Now, one of the things that has happened is that the academic program faculty growth, in particular, was arrested in the 1970s. The new depression -- the literature of the 1970s proclaiming the end of the golden age caused many institutions to put clamps on their faculty growth.

They started billet control or faculty slot control and managed that pretty tightly. But in many institutions, including ours, there was no such limit on administrative billets and, so, they have continued to grow. Furthermore, institutions have added student services. They have added fundraising and other things. They have added a response to regulation. Many of these things necessary but the net result is a shift in the ratio of academic support services and that shift has been really quite significant over time.

What are the causes then of this cost rise in administrative and support services? Basically, there are three. First is something that I have called now for many years the cost disease, after a term coined by Bill Bommel(?), a professor and economist at Princeton. The cost disease, by the way, applies as much to the academic side, if not more, really than it does to the A&S side, but cost disease, basically, says, look, you have got an activity here that is highly labor intensive and you have to pay market salaries. You have to pay salary increases that more or less match the industrial sector or pretty soon you don't have people working for you in the key slots.

Yet, you, so the story goes, are unable to get productivity improvement the way, say, U.S. Steel can or did or General Motors or whatever. So, there is a gap. The gap that has opened up is the difference between the real wage increase in the United States, which represents approximately the average productivity growth in the economy and your own productivity growth, which according to this theory is less than the economy-wide average.

The classic example is the string quartet, you know. If you have a piece that is scored for 30 minutes, it takes two man hours to play it. That hasn't changed in hundreds of years. You know, I mean, it is true that you can play it faster and save a little time, but there are quality implications there. That is also true. Of course, everybody knows that the second violin is redundant and, so, you could make it into a trio. But there is resistance to that. You know, people resist everything.

So, the string quartet is still two man hours within a few seconds. Well, the musicians have to get paid market rates, et cetera, et cetera. So that is the cost disease argument.

Now that is a wonderful argument and I started making it first when I read Bommel and started making that argument about 1972, I think, or '3, to our trustees. And in those days, they bought it. And, boy, we have gotten a lot of mileage out of that argument.

The particularly nice thing about it, you see, is that it is not anything that we are responsible for. This is something that is done to us. I mean, we have a labor intensive thing. That is the way we are. What can we do. And if it is something that is done to us, something that we are not responsible for, we can hardly be held accountable for changing it.

Of course, the problem now is that the world at large and trustees in particular are saying, you know, B.S. There is a false premise there. The false premise is that we cannot get productivity increase in administration and support services and, therefore, the argument falls. We are responsible.

The second argument is -- of course, the cost disease argument certainly has a grain of truth in it. It is just that it doesn't account for everything and you can't rely on it totally.

The second argument is that we are subject to regulation and micromanagement and, indeed, we are. Stanford spends enormous amounts -- my colleague, Sue Schaffer, sitting down here, spends enormous amounts on health and safety, much more enormous than we used to spend and it probably still isn't enough.

I am going to spend more doing accounting as a result of the events of the last year. We can't afford those kinds of errors anymore. We are going to have to make investments. So, it goes.

There is -- every time it is said in the public sector -- and I believe it to be true, more or less -- that every time a state coordinating body puts in a requirement for a new report, it takes, you know, two people on the average per campus and if you have got ten campuses, that is 20 people. You know, I know there are definitional questions there, but the point is a person in a commanding position can make requests for information, reports, syntheses, analyses and keep armies of people going at it in order to respond and that is an element of micromanagement that certainly raises costs.

Now, there is no doubt that regulation and micromanagement is greater now than it was 20 years ago. Higher education, beginning in the sixties, was brought into the main stream of American life, including regulation. To some degree we were kicking and screaming, but we are there. We were made subject, for example, to the National Labor Relations Act. We were made subject to the health and safety and environmental regulation and so on and these -- affirmative action and a long list. These are perfectly reasonable things to hold us accountable for and we have had to make investments. We will doubtless have to make more investments.

But in my judgment this by itself also fails to account for everything that is happening. You may ask, well, why don't we find out whether it accounts for it. And the answer is I don't think one can, even in principle, find out the degree of effect of regulation and micromanagement because the third factor, the administrative lattice, interacts so strongly with it, as I will now try to explain.

The administrative lattice, if we could have the next one, please, is a term that my colleagues and the Pugh Higher Education Research Program, Bob Zemski(?), Tim Warner, who is here, and Glen Stine, who is here, and others -- we used that term to describe the proliferation and entrenchment of administrative staff.

The metaphor, by the way, the metaphor of the lattice is in a crystal. If you put it in the right kind of solution that has the necessary nutrients in it or the necessary stuff, the right stuff in it, will tend to replicate itself and it will tend to do so endlessly in every direction. It has a natural tendency to replicate its structure. We think that that is a rather metaphor for the growth of administrative staff.

Now, one of the factors that operates there is the transfer of tasks from faculty. Over time it has been customary, over the last 20 or 30 years, as faculty have attempted to spend more time on research and as institutions have asked faculty really to spend more time on research and held faculty accountable for more outcomes, for better outcomes in research, one of the things that has changed in order to accommodate that is that certain tasks that used to be performed by faculty are now performed by administration and support people.

Just start ticking them off. Advising. Back when I was in college -- it was 117 years ago, I think it was or whenever -- faculty actually advised. At Yale College, I mean, I actually got advice from real practicing, honest-to-God faculty members. I mean, hard to believe, but -- those functions now are heavily taken over by professionals and I don't mean faculty; student services employees.

Secretarial support, computer -- you know, technicians and so forth. Now, there is a bit of a swing back. The microcomputer technology is encouraging people to do things hands on that for awhile we had passed off to specialists, but basically on balance there has been a shift of tasks from faculty to staff and that has been in part at the behest of the faculty and then in part -- once you build up an organization to serve these functions, it wants to replicate. The computer people want to have a bigger computer operation.

The student services people want to have a bigger and better student services operation. Mike spoke of that last night. All of the incentives -- we don't use heypoints, but the incentives are the same way. You look at the job, what it takes to get somebody reclassified. First thing, how many people do they supervise. People get the message.

Second is a growth of consensus management that has taken over, I think, in higher ed. I am not against consensus. In fact, I wish to heck that we had more of it, but one of the things that happens is that in one's effort to be humane in management and to listen and do all of the things that my former mentor at M.I.T., when I was a graduate student there, Doug MacGregor, called the Theory Y kinds of things, we have gone, I believe, in many higher ed administrations to the point of any legitimate objection can stall, delay or possibly set aside a process.

So, what happens is you get an initiative. You get some movement on the initiative that inevitably produces resistance and back pressure. Then it stops or slows. At best, you have to put enormous continuing effort into it to keep it going. At worst, it actually stops because you don't have a consensus. It is very hard to shape the institution when you are trying to do so on the basis of consensus.

Shaping, as I indicated at the beginning is where it is all about in terms of productivity. That is a subject I will come back to.

I am not against consultation. There is a difference between consensus management and management with consultation. The difference is after you have consulted, the leaders, damn it, ought to lead and the managers ought to manage. So, consult by all means. You need to. You need to get that information. You don't want to isolate yourself. You want to give people an opportunity to be heard and those who are potential allies, you want them on board with you, but in the end, you can't wait around for consensus because the wait is too long.

Then finally there is this element of supply that creates its own demand. That is a phrase due to a colleague of mine, Jane Hanneway(?) in the School of Education, an organizational sociologist. And her little parable goes this way. You got a problem and maybe it is a regulatory problem and you hire a person to solve that problem. And let's assume you hire a very good person. And we can command pretty good people in the marketplace. So, the good person comes on board and in due course solves the problem.

What is the person going to do now? Looks around and, by golly, you know, there are a whole lot of other problems that are in that same area of expertise and they really need solving. A good person can list all the terrible things that will happen if you don't solve them, and believe me, there is enough evidence that sometimes terrible things do happen if you don't solve these problems that such arguments are not without credibility.

So, the new person, of course, stays on board and is busy solving these problems. Pretty soon, that person's plate is overfull with these kinds of problems and, so, that person now has a very legitimate case for adding another good person to assist. So, eventually, the pressure builds so you will hire that person and so it goes.

Furthermore, as you add more and more people in these areas, they involve other people because you don't solve these problems in isolation. You have to -- there will be more meetings and you have to involve -- try to get more consensus, interacts with consensus management and, so, pretty soon these extra good people that you have got are taking a lot of time of the other good people that you had and those people need additional good people to help. And the process is, in effect, a self-fulfilling kind of process.

It takes enormous energy to reshape that kind of process. That is the lattice. That is how the lattice works. As I said, it interacts with regulation and micromanagement because regulation and micromanagement is one of the things that drives the process in the first place. You have problems. It creates problems that you have to solve.

The second one is shifting of tasks from faculty. Those two things are the drivers, but then you get this escalation, which is what we mean by the lattice.

Let me say just a few words about some diagnostics and some management interventions and then -- first, diagnostics. These are telltale signs that the administrative lattice is replicating itself. And I have got a list of them that I will come to in just a second. And then the management interventions are actions, which, I believe, can help break the lattice.

These are things that are culled partly from the experience at Stanford, partly from a review of the literature as part of work sponsored by OERI, both as preparation for this conference and the bibliographic tools that I used, in part, are from a previous project, a couple of years, for the Maryland Center, the Dick Chate's and Dick Anderson's center.

So, this is a mix of things; in part Stanford and in part the literature. Before going to that list, though, the list of diagnostics and the list of management interventions, I would like to say just a few words about Stanford's repositioning programs. These are described fairly well in the paper. My colleague, Tim Warner, is here. He is a co-author on the paper and he is in a very good position -- a better position in a way even than I am to answer your questions, but together we would be happy to discuss the Stanford program in as much detail as you wish in the question and answer program.

But very briefly, the program was intended to limit tuition growth to inflation plus 1 percent. We had come to the conclusion, I am proud to say, before we had to, that we could not continue escalating tuition. Stanford's tuition had escalated over ten years, ending in '88, at the rate of a little over 4 percent real per year. The average for our type of private research university was almost 5 percent and we had come to the conclusion that that could not continue.

There is an interesting market phenomenon here, if I may digress just for a second. We could not see any problems with that escalation in real tuition. We could not see any problems with the market statistics; that is, applications were continuing to be robust. They would fluctuate around a little bit, but it is a good enough ratio so you don't care. But there was no systematic erosion there.

Yield rates, the proportion of matrix, compared to admits, was right up there. In fact, it approved over this period. We look at people we lose to other institutions in the area, where financial aid has been requested but not given in any great amount and where the students are in the highest academic category and that is arguably the most competitive segment.

Can't see anything but strength there. Yet, we felt this terrible problem and the reason -- here is the reason, I think. There are three ways that one can resolve a problem if you are a parent or if you are a client. As they say, there are exit, voice and loyalty, if that rings a bell.

Exit is the classic market response. People vote with their feet and they go somewhere else if your price is too high. They were not doing that in our case, probably we think because they felt in a way almost trapped. If their kids could get into Stanford, parents really felt a strong moral imperative from the kids, felt that, God, this is something we just have to do. Yet, the burden was getting to be greater and greater.

Voice -- I mean, at the other end there is loyalty and that is, of course, what we would have liked. You go along and you pay and then you are happy about it and you give again later and all those good things, but increasingly it was voice and voice is through the political process. Voice is through the press, the media and we were feeling that voice. I believe that that is a market phenomenon at root and it was one that we had to pay attention to and we did with the announcement a year ago that we would limit tuition growth to inflation plus 1 percent.

Likewise, at about the same time, we decided to limit research overhead to 78 percent. Oh, my. Our provisional rate, by the way, is 70 percent now. How I would love to have 78 coming into the budget. But we had projected a growth of the indirect cost rate up into the eighties as a result of our Near West Campus Capital Expenditure Program. This was -- I was quoted in the Chronicle of Higher Education, by the way, saying that this was a miscalculation and in a certain sense it was, although I think I would have chosen a different caption on the picture.

What happened was that we had projected research volume and then projected the 250 to 300 million of expenditures for the Near West Campus based on those research volume projections and then it appeared we weren't going to be able to achieve that whole volume and when you project it forward with the lower denominator, with all of the capital cost and O&M and everything in the numerator, bingo, the rate was up in the eighties. It doesn't take much of a shift to get that.

You know, projections are never perfect and these projections weren't off by all that much, but a couple of percent or 8 percent actually, you know, compounded over some years makes a difference.

So, we decided we had to pull back. We had to hold the rate at 78. Faculty were telling us in the fall of 1989 and in the winter of 1990 that faculty were becoming non-competitive in the marketplace. They were being rebuffed in their efforts to obtain research at the agency level. What the Packard-Bromley Report said five years or so ago, namely, that the market should be used to discipline indirect cost rates, was working and our faculty, especially the PIs with smaller programs, that is, a PI with -- a principal investigator with a few graduate students and maybe a technician or something were feeling the pinch as NSF was not adding, as NIH was not adding the money for the indirects. And we began to hear that.

So, we decided to hold the indirect cost rate at 78 and we decided not to go off of full recovery, which we believe very strongly as a principle that the government -- this is a very brief political statement here -- we believe that the government should pay its fair share, that is, average cost, of research. Our solution was not to dip under that but to cut our costs, so that lower cost would produce a rate at 78 percent; I think a very responsible thing to do.

These two things together led us to calculate that we needed to reduce the administrative budgets by 22 million, 12 percent of the administrative base and also to constrain facilities construction, we stretched out the Near West Campus. We also did some substitutions for earthquake repairs, which had come in. I suppose we could be faulted for not predicting the October earthquake in '89, but we didn't.

Then finally, and very importantly, our objective was to obtain work process and organizational reform. If you just cut budgets -- it is like that game that you see in the arcades -- this shows my age again -- this was before the video arcades, but there was a game that a whole line of pegs and you would hit them with a mallet and the object was you keep hitting those pegs with this mallet and they would keep popping up again. If you didn't hit them fast enough, the pegs would pop up and if you hit them real fast and real accurately, you could keep them down and that gave you a good score on that particular game.

The trouble is if you just cut budgets, the minute your back is turned, the pegs pop up again. People just store up all of their needs and the minute there is a little bit of room in the budget, bang, back they come. In order to make a permanent change, you really have to change people's view of what work is all about and you have to reform the organization and restructure the organization, all the things that Mike was talking about last night.

So, now let me go through these lists and then we will open it for questions.

First, a number of items as to the diagnostics of the administrative lattice and I will go through these fairly fast and we can discuss them later if you wish.

First of all, and most obviously, excessive expenditures. Where there are comparisons across institutions, these comparisons should be looked at carefully and so much depends on how you look at them. If you look at them with the objective of explaining away differences, you aren't likely to find much. If you look at them -- the senior executives look at them as diagnostics, as early warning signals for things that you really ought to do something about and you want to do something about them as a matter of principle, you find very interesting things when you look at the same data.

So, looking at comparisons, you know, cost per -- FTEs for accounting transaction where there are comparisons, cost per square foot of operations and maintenance and so forth, it is very important to do so. Also, ratios, to the extent that you can get ratio indicators at a sufficiently disaggregative level as to expense in the one category versus expense in another, those are very useful.

A second one is excessive expenditure growth and that is something you can do yourself. The other one really requires norms because how do you know what excessive is.

You really have to have inter-institutional norms for number one, but number two, you can look at the growth rates of expenditure by category across the institution and either in dollar terms, deflating for the right cost rise deflators or in FTE terms -- we have done both -- and you can very often pick the outliers. You know, bing, there they are, one, two, three, four, five.

So, you now start asking the questions why did this operation grow so much faster than that operation and if you want to get a little more sophisticated, you can do some normalizing for the number of transactions and so forth. You can very often spot outliers. Now, sometimes there are good reasons. If you look at health and safety, my friend Sue's area, that is going to be an outlier and, yet, I know very well why. So, that one is explainable, I think. Maybe she knows something I don't know, but very often you can find assignable causes. The point is you at least are looking at some fertile areas.

A third one is excessive administrative entrepreneurialism or entrepreneurism -- sorry -- there is no "l" in it. And I say "excessive" there because administrative entrepreneurism is in and of itself not a bad thing. I mean, that goes by other names, such as initiative and creativity and, you know, innovation and those are good things, but there are some telltale signs as to what might be excessive. Here is a good example. When you see a manager of a support unit, administrative unit, a unit that supports other units, hustling additional business -- I used to teach marketing, so I don't think there is anything wrong with that per se, but that service is either given free to the client within the university or substantially below cost. That activity is a candidate for excessive administrative entrepreneurism.

I have had cases like that in my shop. My colleagues have. It is very easy to sell a worthwhile service if you are selling it substantially below cost and it is not at all clear that is optimal from the institution's standpoint. So, take a look at those things.

Excessive specialization is another such area, where groups -- where you get down and you have an individual -- the classic thing in our controller's office is you have got the desk for this and the desk for that and they don't -- I mean, they communicate with each other, but there is not a great deal of cross training and you have compartmentalized things. What happens there is when a given desk gets a little bit pushed in terms of capacity, they don't share work across the other desks. They have to add another person. That is the way the lattice works.

So, administrative specialization compartmentalization, again, some of that is appropriate, but when you see that happening, take a good look.

Another diagnostic is function replication. That is, where you see multiple activities growing up to perform essentially the same function in different parts of the organization and the argument is always, well, we need to do it a little bit different than they need to do it. We need to do our maintenance differently than they need to do it because we are a little different after all and, of course, sometimes those arguments are valid. But take a look at them with a jaundiced eye. That is a symptom of the lattice.

Centralization is another thing. Where there seems to be a scooping of function -- and II realize that function replication and centralization in a sense are two sides of the same coin, but where people are scooping in authority, if you will, that is where you see changes over time in the degree of centralization. Take a look. That is often a sign that the lattice is working, that people are attempting to build their empires, gain control, replicate their lattice.

Reduced performance quality is another and I want to come back to quality -- I will come back to quality in the other lists in a moment, but reduced -- what often happens is that you begin getting reasons why quality is going down rather than effective changes in dealing with quality and you get people defending problems and it is an attitude. How do I explain it, other than it is an attitude.

It is an attitude. When you go to somebody and say how come this happened or what are we going to do about that and the first thing that comes to mind is six reasons why it wasn't their fault or why -- that is a danger signal. Maybe the reasons are valid, but it is a danger signal.

Finally, reduced efficiency in decision-making, that is the signal of management by consensus, where it is hard to get things done and you know it when you see it if you are in that environment. The problem is to break out of it and to do something about it. Here are some interventions and some of these are pretty self-evident and some work better than others, but let me tick them off quickly.

Written admission and vision statements. The literature is full of this. So many of them are voluminous and not very practical, but my experience is that if you do them right, they really make a difference and doing them right means having them relatively parsimonious and having them done by people in the organization that know and are willing to put their own back and reputation behind them. In other words, if these are truth-telling statements, as opposed to posturing and rhetorical statements, they can be useful.

The same thing in a way is true of formal planning methods. Formal planning methods, again, the literature is full of them and so many times they produce big reports -- we all joke about the reports that gather dust and nothing is done with them, but when it strip it down to their roots, what they really are is ways to try to get one's thinking organized. And we all do that on our yellow pads on airplanes or wherever it is that we do it. I do mine on airplanes because I travel back and forth between the two coasts so often. But somewhere you have a little quiet time and you do that and if you take the next step and involve some other people and begin to get it organized in a certain way, that is a very useful step and it is that sort of thing that gives you the leverage to get some things done in the organization.

Another thing is decentralization of management and budgets. When we are in trouble, we tend to want to gather stuff to ourselves and, in fact, the real trick is finding ways to motivate subordinate managers in getting jobs decentralized. If we had more time, we could talk about it in the budget context. Stanford has gone to a decentralized budgeting system and it seems to me that that is the way of the future, not necessarily -- I see John Strauss is here -- not necessarily in my view all the way to responsibility center budgeting, but certainly a big step in that direction. That is how, frankly, you get around the problem of micromanagement and make it possible for people to do things to substitute activities. They can't do that if you hold them responsible for every line item of expenditure.

Management by objectives, MBO, again, it is like the formalisms above. If the objectives are real, they work. I happen to be something of a fan of MBO and I recommend it to my people, not in any slavish way, but it helps organize one's thinking.

Again, these are things that come up in the literature and that are useful.

Total quality assurance, Mike spoke about that last night. This is shorthand for an effort to understand both sides of the quality equation. The cost of preventing error on the one hand and the cost of cleaning up error on the other and to reaching an optimum that is balancing those two costs, minimizing the expected total cost of those kinds of activities.

Mike pointed out that, in fact, it is possible to go further toward a zero defect system than anybody had ever thought possible. And I think that is right. I think that we have been taken in. I know I, ten years ago, was saying, well, it is just not worth putting money into these kinds of control systems and I am rapidly becoming a believer that one can and has to do better. But there are organized procedures now that come out of industry for total quality assurance and they are worth looking at.

Oregon State has done a big job in this area and they are reporting it up through Fred's committee and that is useful stuff to look at.

Performance sampling, so-called Deming(?) methods, this is -- Mike alluded to this last night, too. These are statistically-based measures and the important thing here is that when one concludes that one can't measure in an accounting sense or in a total MIS, management information system, sense what it is that you need to know, you don't have to stop. You can develop sampling procedures, statistical measures, which though not perfect give you what you need with a sufficient degree of accuracy to take some action.

When you consider that the alternative is flying blind, it doesn't take an awful lot of statistical accuracy to make a big difference. That is what the Deming message really is all about. By the way, I debated with myself as to whether there -- there are two "m's" in Deming and I studied his textbook when I was an undergraduate and I did a statistical sampling of the various brain cells and came up with one "m," but I don't guarantee it.

Another is organized client feedback. This comes out of all of the service literature and there is a substantial literature on service providing, starting with, I think -- well, maybe not starting, but a guy by the name of David Maester(?) from formerly the Harvard Business School, now a consultant in the Cambridge area, Boston/Cambridge area -- service encounter is a real time proposition and, by the way, administrative and support services are service encounters virtually by definition. They are real time activities. They are done over and over again. They require concentration. They require engagement between service provider and client.

The only way you are going to be able to manage that is to have continuous real time feedback. That doesn't happen by chance. You have to organize it. You have to plan it. You have to implement it.

Zero-based budgeting, ZBB, I have used it. It can drown you in paper. It is one of the things that still exists in the literature. If you do it right actually, you can do it in a whole lot of different ways. You don't have to do it with total extensiveness, but the idea is you look at what you are doing already. You don't just look at the new stuff.

Next one. Productivity statistics is obviously related to sampling and Deming, but look at ratios. Look at things like cost per transactions, FTEs per square foot of building space. Think of the measures that in the administrative and support service area -- think of measures that have something to do with the relation of inputs to outputs. Even if they are imperfect, it makes an enormous difference in how you approach these problems and what kinds of clues and what kinds of actions you can take.

Performance evaluations of individuals, a lot in the literature on that. I don't think I have to say much about it. Individual managers and individual employees need systematic evaluations and you have to be prepared to act on those; hopefully, positively, sometimes negatively.

Reward recognition and incentive programs, same. It follows on performance evaluation. The interesting thing here is that all rewards are not necessarily financial. There are a great many things you can do by way of recognizing people that have very powerful motivating forces connected with them, but don't ignore the financial either. Sometimes an unexpected financial reward especially can make a huge difference.

Training, we probably do too little training. I know one of the things we are going to do to deal with our problems in the liability is to institute a lot of training and make it mandatory and really make sure that people are following these things at the detail level.

Work redesign programs, it is only when people understand that the work that they are doing has really got to change and that you are not asking them simply to speed up, you are asking them to make judgments about relative importance, what is important and what isn't -- it is only when people are trying to change the nature of what they do and how they do it that you really get significant productivity improvements in A&S areas.

One method of getting that is through shared responsibility teams. These are the equivalent of quality circles. The quality circle, though, is right at the shop floor. The shared responsibility team, sometimes called quality teams in the literature, is where the team has a cross section of people in it, some fairly senior people, some fairly junior, others in between; the senior people, though, being instructed not to dominate the team but to be there as resources.

The junior people are usually where the action is and they have ideas -- better understanding of problems and ideas, but they don't know how to get things done really at the higher levels and if you have got a good shared responsibility team, you can break through that by putting the two together.

And last, but not least, but definitely last is advanced technology. Advanced technology can help a great deal, but, frankly, it can also cost a great deal, as we all know. It works best when it is combined with the above and particularly the two above. If you use advanced technology as a spur and as an enabler to redesign work and you do it -- you implement, not just by automating, let us say, what you do now, but you use shared responsibility teams to redesign the very concept of what it is that you do around the new paradigm of the advanced technology, that is where the real powerful payoffs are.

Technology by itself usually costs -- well, always costs a lot of money and if it is by itself, it often doesn't produce the payoffs.

That is what I wanted to tell you and I hope there is at least a little bit of time for questions.

MR. ROGERS: We are over our time, but I think we should take at least a couple questions.

MS. TAYLOR: Barbara Taylor, Association of Governing Boards.

Have you distinguished either in your work or in your thinking between growth in productive areas versus non-productive areas? My research on fundraising, for example, suggests that relatively larger fundraising staffs actually make more money per staff member than smaller fundraising staffs do.

MR. MASSY: There is one category of activity where there is a -- there are a few categories of activities where there are marginal revenues that go with marginal costs and those marginal revenues come in from outside the institution.

Now, if the revenues that are coming in are useful revenues, that is, if they are not so highly restricted for things that you maybe don't want to do, the in my judgment -- I am a businessman. I believe you ought to expand something if marginal revenue is greater than marginal cost. Same thing is true in investment activities. So, where you have got marginal revenues, there is a different set of rules. They boil down in a sense to the same thing, but you really are -- you really do have a different set of rules.

MR. HARRISON: Mernoy Harrison from California State University, Sacramento.

At the beginning you had a chart that showed that there was one segment that did not have administrative and support expenditures growing faster than instructional expenditures.

MR. MASSY: I think that was the land grants, if I remember, yes.

MR. HARRISON: Okay. Do you have any information that explains why that is the case?

MR. MASSY: No. That would be a very interesting subject to look into to. We have not had a chance to look into it and I wouldn't care to speculate.

MR. ROGERS: Bill, can I ask you a question over here.

MR. MASSY: Yes, yes.

MR. ROGERS: On that data on cost --

MR. MASSY: This is Fred Rogers, for the record.

MR. ROGERS: Sorry.

The data on cost growth, did you take out of administrative and support costs that portion of research indirect costs that are reimbursed?

MR. MASSY: No.

MR. ROGERS: Do you think that is an interesting adjustment to note that -- you know, if you are going to compare the growth in administrative support costs, you really have to somehow normalize for the fact that a piece of that growth was due to the rapid growth of research.

MR. MASSY: We didn't do anything that fancy. A real full-blown study should do that. Now, interestingly, the differences there are smallest -- they are fairly small in the two research university categories. They are bigger in the private college category, but, yes, you are right. There are -- to the extent that sponsored research was growing dramatically during this period and that it produces marginal costs of administration, that would be logically in there. Now, actually, sponsored research was not growing all that dramatically during that period, I think from mid seventies to mid eighties -- well, I won't argue it. I don't think so. It was growing in real terms, but so also was educational in general.

I don't think it was growing more than the 2 1/2 to 3 percent than the E&G was growing during that period.

Yes?

MR. HUGHES: Scott Hughes with Peat Marwick.

Bill, I think -- I will make a supposition and you can tell me if this is not right. One of the issues Stanford is dealing with is the -- in terms of realizing productivity improvements, shrinking the administrative structure and the like is the resistance to change throughout the organization, top to bottom.

MR. MASSY: I will show you my scars.

MR. HUGHES: Yes. It goes all the way down to the lowest level clerk or the highest level clerk in the organization. Can you talk a little bit about the way in which Stanford is trying to approach changing human behavior maybe as it relates specifically to incentive programs to encourage people to look for ways to improve productivity and get through the wrenching times that you are having to go through?

MR. MASSY: I will make a brief comment and Tim or Sue, would you -- if you would like to say anything, please feel free.

In my judgment, we have done some but we haven't done enough. In business and finance of the division that I headed until Sue came on and took the business affairs and administration part of it, when I started doing academic things part time, we had a program called RRI. That is where I got that acronym, rewards, recognition and incentives. And we did try to develop systematically a series of incentives. We had a managers' RRI kit that we trained people up to and distributed through the organization that had -- was replete with ideas and possibilities for a variety of different kinds of things.

Now, I proposed at that point, frankly, a system of financial incentives, but that has not been enacted. We certainly base salary increases on merit and that is done in a careful way, based on performance evaluation, but we have not gone to any system that would involve non-base salary payments, otherwise known as bonuses. We have not done anything of that sort.

Right now, we are in a bit -- morale is, to be honest with you, has been better than it is right now at Stanford and I think part of it, there is some survivor's guilt maybe of those who didn't get laid off. There is still considerable confusion over the new organization structure. We have some acting still people, unfilled senior level positions and acting people and now the senior people, of course, are pretty heavily distracted by the congressional stuff and the audits.

So, we are going through a difficult time and we ought to be doing more than we are doing, frankly.

MR. ROGERS: I think we are going to have to stop now. We have a short refreshment break outside and then another session.

Bill, thank you very much.

(Applause.)

PRODUCTIVITY (Cont.)

MR. ROGERS: We are now going to get a different perspective from Jim Mingle. Jim is the executive director of the State Higher Education Executive Officers Association. He was appointed as the first executive director of that group in 1984 and represents the executive officers and staff of statewide coordinating and governing boards of all of the 50 states.

Jim's research, writing and consulting have included work on minority access, statewide planning, coordination and governance, program review and assessment and institutional management issues. In 1976, he was the co-author of the first study to examine the impact of increased minority enrollment on predominantly white institutions in the sixties, published by the Institute for

Social Research at the University of Michigan.

From 1980 to '82, Jim directed a national study of state and institutional strategies to deal with enrollment decline and financial cutbacks. It sounds like you were ahead of your time there. Those have become even more relevant.

More recently, he has turned his attention to the problems of accountability and productivity in higher education. Jim has a Ph.D. from the Center for Study of Higher Education at the University of Michigan and his bachelor's and a master's degree at the University of Akron in Ohio, where he also serves in administrative positions in the areas of continuing education and administration.

Will you please welcome Jim Mingle.

(Applause.)

MR. MINGLE: Thank you, Fred. Bill, good to see you again.

When you are last on the program, you look at it and you think, well, are you in the situation where everything has been said; it is just that everybody hasn't said it yet and you are the guy who hasn't yet said it. But then the good news is when you follow Bill Massy, I think the tone of the conversation changes. I have been in numerous meetings with different topics ostensibly, but essentially talking about the same thing.

And after lunch, when the politicians leave and we stop talking about how can we communicate a better perception of higher education and we get down to the discussion of how can we actually change the enterprise we are involved in, it becomes a more concrete and I think fundamentally more honest discussion. I think Bill's work over the past few years and the various audiences he has presented it to has promoted that more honest discussion about higher education cost and productivity.

I am not going to do a new presentation from what I did in this paper, so if you want to pull the paper out and follow me along, I am going to try to hit some highlights that, for myself, define the themes that I wanted to hit. And if you want to -- I will pause through the highlights and if you want to at any point stop and interrupt me and disagree or add your own observations, I would be pleased to have that interruption.

I think the first thing I want to say about state policy and productivity is that, first of all, states are profoundly ambivalent about the whole concept of productivity and I suppose another way of putting that is we as a nation are profoundly ambivalent about the subject because I don't separate, quote, the state as some separate entity in a democracy from all of you that are sitting here as representatives of higher education and constituents.

Productivity on the list of priorities in state policy falls somewhere below other important values. Stability, I think, is probably at the top of the list. Minimizing conflict in a pluralistic society is certainly up there. Equity is certainly a powerful goal, especially as it affects the public sector of higher education. So, given those other values, it is not surprising that we do not do in state budgeting a zero-based budgeting approach. We don't look for optimum solutions necessarily. We don't separate means from ends and that in a sense productivity is in the eye of the beholder and that eye and that perspective changes from year to year as we take turns satisfying different priorities and different goals of the institutions.

I think, however, having said that about the incremental approach, that if you take the long term, I think you do have a fundamental change in perception of what a productive institution is and a growing gap between that definition as defined by the public in general and the academy.

I thought there was great consensus in the 1950s and sixties and into the seventies about what a productive institution was. It was an institution continually expanding both in the number of students enrolled and the scope of the curriculum. Now, the public and the politicians were certainly more interested in the growth in the number of students; that is, the external forces for access were substantial.

The growth and scope and specialization was, I think, primarily internally driven, but the public was willing to pay for that, as long as access continued to expand.

I believe that that consensus has broken down. I think we are still struggling with, as I note on page 3, our response to the transformation from an elite to a mass higher education system and the debate over quality in the 1980s is, one, to find a productive formula for delivering mass higher education.

So, this leads me then as a kind of device for examining the question of productivity and how state policy might affect it, to concentrate on the teaching function of institutions. This is not to ignore the other mix of outcomes that happen, but I say this because I think if you ask the average state legislator or the average taxpaying parent in the state what they thought their support was going for, they would put instruction at the top of that list. And given the way in which higher education is funded, certainly the primary funders of instruction are a -- in the public sector are a combination of state taxpayers and parents and students through tuition.

This question -- I think Bill used the term "client" -- what was that list of -- examining clients -- client feedback. A friend of mine, who is the vice president for external affairs at a major state university, recently did a pretty comprehensive survey of the undergraduates of that institution and he got the survey results. And he found out that 40 percent of the undergraduates at this institution, a main campus of about 40,000 students, 40 percent of those students were dissatisfied with the quality of their undergraduate experience in that institution.

He had been getting bashed over the head by state legislators and the public, in general, about the quality of undergraduate education. Now he had a piece of evidence he thought he could really persuade President's Council with. He went into that President's Council, which consisted of the deans of all the major schools of the university, handed out the survey results. Response: This survey is -- I am very encouraged by this survey, one dean said. We have 60 percent of the students in our institution who are satisfied with the quality of undergraduate education.

The states' ability to affect change, well, we get a lot of credit for causing the problem and then we get a lot of -- too much, I think, interest in what kinds of incentives that we can provide to correct the problem. I promised to write this paper for OERI with a realistic view about what we could do or not do. So, I have tried to be honest in that regard.

I think that we have -- "we," being the states, have tried to do our best to protect the faculty from change over the years in our policies. I am struck by Bill Massy's work and Bob Zemski's two factors leading to cost increases that I think many state leaders feel intuitively is the problem. One, the lack of consensus about purpose and that is why states spend so much time on written mission statements and trying to negotiate that and, second, the absence of an academic managerial structure to implement that purpose.

I think given our lack of involvement and respect for the governance processes of states leads to a lot of frustration in trying to impact that academic management structure. I would say I am really talking to the wrong audience here because if you look at the -- despite Bill's list of things that can be done on the administrative side, their work is far more critical of the academic management structure, which is in many institutions -- it is a non -- it is not even recognized as an appropriate term to apply to the curriculum, managerial structure through the departments and schools.

I wish Ted Hollander was still here. Is Ted gone?

Ted was chancellor of the New Jersey system for ten years, as you know, and we talked about productivity a couple of years ago and he said, well, you know, I have spent my entire career trying to ruin the productivity of -- lowering the productivity of the institutions in New Jersey because, number one, I argued for substantial new funds and I hoped that those funds would be unconnected to work load and he was successful.

And quality went up and so did per student cost, of course, and on a surface basis, productivity went down. But coordinating boards are obviously both advocates for support and regulators of excess, both negotiators in that process and developers of systematic plans.

The next part of the paper goes through, oh, for the next several pages, various strategies and tools, both on the budget side and on more structural basis of how states have tried to influence productivity; that is, my definition of getting a more diverse system, a more focused mission, more attention recently to teaching and learning.

The other thing that Massy's work tells us is that the one thing that -- where you have to start in terms of productivity improvement is revenue limitations. It was the board at Stanford, which told the administrators that enough was enough. We have some limitations here. Now go solve your problem. Well, I suppose then the note of optimism about productivity in the public sector is there is an awful lot of productivity improvement going on this year, given the cutbacks.

And despite the tone of this paper saying that, quote, the states are helpful, I will note that -- my understanding is that considerable public pressure, for example, in Oregon was applied and the institutions were also ready to respond to that public pressure from the governor saying you are not going to make these cuts across the board; you are going to make them selectively and it is going to be in terms of reduction in scope.

A controversial issue, I think, on revenue limitations is what the states are going to do about tuition increases, allowing them or not. Tuition increases, as I would interpret it in the 1980s, were basically used as a way of filling the shortfall between expectations of institutions and the ability of the state to provide that. Legislators look the other way. They have stopped being the protectors of low tuition in the 1980s.

A member of the press was here this morning and grabbed me and said what is going to happen to tuition this year and next and I said, well, I think all you have to do is follow state budgets and if you think the states are in trouble, you can expect tuition to go up dramatically. And I expect that to continue. Now, some states have put caps on tuition and said to the institutions, you solve your problems, your expenditure problems, by reallocation and cutbacks.

Unfortunately, I think, what the states also are less willing to do is also say, look, limit enrollment because that cuts back access. I think Wisconsin is an exception to that. My understanding is that they have, after years and years and years of real holding down on the system in terms of revenue availability, are now saying we can't do that any longer and maintain a quality operation. We are going to have to limit access.

The next section of the paper talks a lot about budget changes, budget incentives. Incentive funding is certainly the hot topic in the circles that I run in. I think the incentive funding programs are a good idea. I don't think they are any panacea. John Folger's work is very persuasive on this. He notes that probably the toughest area to get any impact on is improving the quality of undergraduate education.

Tennessee has had these funds for a number of years and what he found out was that you get great institutional leadership commitment to going after the funds and they earn these through a performance funding process. That doesn't necessarily mean that those same institutional leaders have any sort of performance funding process for internal allocation.

I also believe, in terms of state budgeting processes, that the primary budget decisions made in any given year affect the distribution of money across institutions, among the sectors, not within institutions. That is why it is so difficult to make fundamental changes.

For example, if the state or the public would -- there would be an outcry to really improve the quality of undergraduate education and you wanted to make some fundamental base budget changes, those base budget changes would dramatically affect the distribution of dollars flowing, say, to the two-year sector or to the four-year college sector, to the university sector, and would be -- or if you did it through changes, say, in enrollment, enrollment caps on one sector and that shifted students over there and those students with them brought money, you get a tremendous counter move that is seeking stability of funding, for example. This has happened in Colorado this past few years.

So, it is hard to get at that through the state instruments, those kinds of major changes.

Then I discussed the issue of structural change in higher education. I must say this is probably -- this whole piece is kind of a fluff piece. I won't claim any complete analysis of either the literature or what the factors related to cost are here, but I am intrigued by the fact that -- Marian Gade(?) and Clark Kerr have documented such a tremendous -- in the public sector -- such an extraordinary consolidation in multi-campus systems, noting that over half of all students in higher education are now enrolled in 120 systems governing a thousand campuses. The free-standing public campus, headed by a board of trustees, fully under its own authority is now the exception.

That finding, along with an observation that Dave Longanecker made to me one day -- and David is also -- notice, my own members leave me here to stand against all of you alone -- Dave said -- he has concluded that if a state really wants to support undergraduate education, the only thing they can do is give it only to institutions who teach undergraduates. He is in Colorado right now rapidly back-pedaling from that observation.

So, that led me -- those two -- that Marian Gade and Kerr observation, along with David's comment led me to think, well, what if we had the equivalent in higher education of the break up of the Bell System and we began -- -- is there something related here between this consolidation into multi-campus systems and, quote, the neglect of undergraduate education, which I suppose will be debated until we are all in our graves.

So, I suggest here that we -- that states might consider either through a deregulation or a governance reorganization much smaller autonomous units focused on undergraduate education as one possible way of improving, quote, the productivity.

Then I go on and talk about enrollment and graduation standards, noting what an important public policy issue this has become, unlike two decades ago when people felt this is -- who goes to college and where they go is exclusively a prerogative of institutions and faculty. And I think when it comes to individuals, it is, but when it comes to the size and distribution of enrollment, obviously, an enrollment generates an extraordinary public subsidy at both the federal and state level. So, it is, in fact -- you see now at the federal level, this tremendous debate over, quote, the ability to benefit from a post secondary education.

I think it is a legitimate public question and I suspect that when it comes to, quote, productivity improvement, it may, in fact, be the one place that states can have the greatest impact.

Don't spend much time on performance standards. The literature on assessment and its pros and cons is as long as your arm. I think the real question is whether these outcome measures, in fact, are providing enough information at the campus level to make the necessary changes in the process that, in fact, will improve graduation and -- retention and graduation rates.

I can say from an accountability standpoint that I don't expect that -- I mean, it is one of the few levers that the states have in terms of demanding and requiring more and more information about retention and graduation. And I think it has changed the focus of the discussion. It is no longer, I think, possible for a campus president to come in and say we are doing a great job because our enrollment is up 5 percent, 10 percent from last year. You have to go a step beyond that.

We also do not deny the cost that that generates in administrative cost.

Technology, I agree with what Bill had to say about technology. I would note that I think that one of the -- technology change has affected the non-instructional side of higher education far more than it has the instructional side and I think that is because we view as -- we actually believe that any cutbacks in contact, personal contact, between faculty and students is, in fact, a decline in quality and, therefore, we reject it. It goes back to this business of we don't separate means from ends.

It doesn't matter. It is what we believe. I heard someone at a meeting on -- there were advocates of long distance learning and he said we have got the question wrong. It is not whether or not long distance learning technology is as good as on-campus instruction. The question is is it as bad.

Obviously, we have got, in terms of technology being a productivity improvement thing as you -- it does have to replace -- if it is going to apply the same way as it does in the private sector with automation, it has to replace personnel at some time and we have got an extraordinary set of fixed costs related to the current production process.

I think there are some hopeful signs there. Clearly, in the professional continuing education are and I think states can play an important role in this. We are seeing work-based site, continuing education in business and engineering as an alternative to building buildings and starting new programs.

In the conclusion, I end up going back to this question of conflict over purpose. I think that this is the heart of the productivity question. Multiple goals and even ambiguous goals, I think, are accepted by the public. What is perplexing, I think, is the academy's own disregard for the value of diversity. And I would go back to having a broader definition of "quality."

Instructing undergraduates, who are ill-prepared for higher education, is a mission that no one in higher education wants. That is the one we can't seem to sell to anybody as much as we try through all our incentive and planning structures.

I guess I skipped over a lot of the planning and budgeting mechanisms. I wanted to -- maybe just a footnote there, going back there is one of the tremendous cost escalators, which I think is unrelated to quality in the public sector is the peer comparison system. It is a ratchet that is so fine-tuned and so well manipulated by institutions that it is just incredible. It moves in cycles among a set of institutions in a set of states. It is manipulated so that the comparisons always show you below average, so that you can move yourself up.

I would welcome any suggestions on how that peer comparison system might be better developed and more finely tuned. I suggest one in here, but it is one that certainly frustrates me.

Why don't I pause there and see if anybody wants to have at me. We have got a lot of experts in the room about what horrible things the states do to destroy productivity and initiative.

One thing we don't do is we don't fund any of the organizational development activity, the RR&I stuff that Bill talked about.

MR. FORD: Fred Ford, Purdue University.

One of the things that we are seeing coming at us now is the area of measurement of outcomes and I think everybody recognizes the softness of it and the difficulty in doing it within any great precision, but it is frustrating and it is frustrating because it gets applied across a broad spectrum of institutions that have different missions.

It is very difficult to respond to. I see it in our state and it gets spread quickly. It is like a virus that goes through all states and I see that as kind of the next wave of activity that we are going to be faced with. That generates hiring more staff to collect data to justify and so on, which is back to the Bill Massy comment earlier about productivity.

I would like to hear your comments from the states' point of view relative to that phenomena.

MR. MINGLE: If the virus is just getting to Indiana in 1991, I guess you should count yourself fortunate. It has been around for a long, long time. And I think institutions in other states have accommodated themselves to it and recognize that, in fact, it is a quid prop quo for increased or continuing support.

Even some institutions have found out that, lo and behold, maybe they can find out something from knowing whether or not their graduates are employed in the field in which they trained, whether or not their students are satisfied, whether or not they are graduating and retaining students in numbers among comparable institutions.

That is not to deny exactly the measurement problems that you are talking about, but I think that once those measurement issues are discussed and debated and refined, that people get beyond that and they become both positive accountability measures to keep generating public support and institutional change agents to change curriculum.

So, I am generally positive about them and I know that they are fought tooth and nail by institutions.

MR. SULLIVAN: Jim Sullivan, University of California-Davis.

The focus of our conference has been primarily on cost cutting and productivity improvements in sort of the non-academic side of the university environment. You brought up the faculty productivity a bit in your comments. Some of us think that is a crop that is ripe for harvesting.

I think it is probably correct that we should start with the non-academic administrative side to answer a question the faculty will have whenever you start talking with them. But I think it is going to take a time for us to implement any faculty productivity improvements. I won't go into the reasons for that, but programmatic changes among faculty take a much longer period of time.

So, that leads me to two questions. One is how do we get academic productivity cutting or review -- that is a better word -- on the agenda at the present time, given faculty's reluctance to talk about it and administrators knowledge that to talk about it is a difficult and sometimes shortens one's tenure as an administrator?

A second question is perhaps less important but why would we want to improve academic productivity in a public institution if it is formula driven, which would mean that probably any improvements and any cost savings would go back to state government as opposed to staying on the public university campus?

MR. MINGLE: I am going to -- let me answer the second part and then I am going to -- could I put Marilyn McCoy on the spot to respond to the first part? Are you willing to do that, Marilyn? Is that a "yes" or a "no"?

How do you put academic productivity on the agenda of an institution? In terms of why you would do it in the public sector, I, despite the funding formula -- I don't think funding formulas are something that are dictated from above. I think they, in fact, reflect the values that institutions do, in fact, want and, therefore, I think the short answer is I think you would find great enthusiasm and support and protection from, for the most part, a reallocation planned from your colleagues in the state legislature, if, in fact, you would take that leadership and propose that leadership plan. I don't think it is something they would oppose or take away from you.

They may take it away from you for some other reason because in fact there is no money in the state treasury or the prisons have to be funded.

Now, Marilyn -- Northwestern University where, until she and Arnie Webb came, management was dirty word and maybe it still is -- knows something about how to put academic productivity on the agenda.

MS. McCOY: Well, I think I would shrink a little bit from putting it quite in those terms. We have had a process of program review -- well, let me backtrack for a second. First of all, I wouldn't ask the question on academic productivity of the state. Having been in a public institution and a private institution, I certainly think whenever those initiatives are going to occur, if they can occur internally, it is going to be far better.

We have had a system of program reviews for both academic and administrative units, as I was saying. Strangely enough, the initiative for this activity came from the faculty of the institution. It came because there had been a series of budget problems and they felt that there had not been sufficient information on the part of the management of the institution and that the faculty didn't have adequate voices in terms of how that input was provided. But I think the whole question of academic productivity is very much one that the institutions have to deal with.

It is not something that I would stand up and give a quick formulaic response to. I think it has many different dimensions to it. I must say that one of the sort of unintended, but very positive spinoffs that we have had in doing this review process over six years -- and we are now in the final year of our first phase -- is that we have had people, faculty reviewing administrative units. And I can't tell you the multitude of dimensions of that process in itself.

There is so much suspicion on the part of the academic side of the administrative side and it has really been a revelation for them to come in and closely examine what is happening. We have both internal teams and external teams. I think both parts of that are critical because, you know, faculty looking at a development office, all they see are dinners and staff and all of that kind of thing. They get some perspective when they start to see what happens at other institutions and get some barometer read in a relative sense.

But that is sort of at one level. I think another whole level, when you start getting into this whole issue of undergraduate education and faculty work load and where are the checks and balances -- you know, I was interested in listening to Mike Tierney's presentation today where he said, well, they go in and they just cut down the number of courses. It is sort of an interesting way to approach it.

I think we are looking at it from the other side, of trying to lay out the courses that are being offered in various different departments and trying to get a sense of, okay, how much of those are undergraduates and graduates; where is the faculty work load going; to what extent are faculty sort of self-defining. You know, we used to teach in a quarter system six courses or they used to teach nine courses over an academic year. Then it goes to six courses and it goes down from there. There is no process within the structure on how all of that occurs in terms of checks and balances.

So, I think this is very much -- you know, the management and the issues of productivity on the academic side are very much part and parcel of the management of institutions and the whole role of department chairs, I think, is another whole unsung but very critical layer in that process, where typically we don't view department chairs as a critical part of the management of institutions and, yet, they are the ones working with the faculty that are intimately involved in how you define academic productivity in our institutions.

So, in a sense I am ducking the question, but I think we are beginning at our institution to look at some of these questions, but it is a long and arduous and it is not a quick fix, but I think beginning the discussions and looking at each of these areas is a first step.

MR. MINGLE: I don't have a last word, Fred. I think this timing right now is a great opportunity. I mean, the negative -- the plus side of the revenue shortfall situation is that you can both make the changes internally, plus, I think you can gain some points with your governors and legislators at the same time.

I notice the University of Minnesota withdrew its -- I note this in here -- its appropriation request in a year in which they knew there wasn't any -- fighting it out for the crumbs. They said, look, we have a $60 million reallocation plan here. We are interested in undergraduate education. That is what you are telling us you are concerned about. I think they are going to make a lot of points with the public in that and they will get back their support when the state tax revenues come up again.

MR. ROGERS: Thanks very much.

(Applause.)

As we finish this and begin the wrap-up, Caspa is going to introduce our last speaker. We are going to first ask your indulgence for not more than ten more minutes of finishing up today's program. I know we have run behind all afternoon, but I think we will finish.

I would just like to add that the Financial Management Committee is, as was stated earlier, one of the arms of NACUBO, working to try to understand the key research areas in this whole area and the ways in which we can disseminate this kind of information to the members of NACUBO.

Robin, who runs the Financial Management Center, and I are going to stay here after this session for about 45 minutes and we will be delighted to talk to anyone who would like to stay around and advise us about things you think NACUBO should be doing more or less of or differently with respect to that agenda. So, I would invite anybody to stay on and do that.

Let me turn the podium back over to Caspa Harris.

MR. HARRIS: Thanks, Fred.

Our final speaker, who will close this by giving a brief talk on future directions, Dr. Janet Hansen, the director for policy analysis in the Washington, D.C. office of the College Board.

You all have her resume in your materials, so I am not going to waste time by going through it.

Janet.

FUTURE DIRECTIONS

MS. HANSEN: Thanks, Caspa.

I was asked to wrap up this meeting with some brief thoughts about future directions and I promise you I will be brief because, of course, we have been talking all day not just about where we are but where we might go in sorting out the strategic finance and management issues of the 1990s.

Rather than try to summarize a discussion which we have all heard, what I would like to do is to step back a bit and sound two broad themes. Both have, I think, implications for the future directions of our discussions about higher education funding and administration.

They are themes that struck recently as I was reading an OECD report on higher education financing in that organization's member states. And I have heard these same two themes running through a lot of our discussions today, sometimes implicitly and sometimes quite explicitly.

The first theme is really a truism and that is that higher education finance and management are means and not ends. The point of either bothering to belabor this obvious fact, I think, is as Jim Mingle and others have indicated, that higher education has changed dramatically in the past three or four decades. I think that our efforts to find efficient management and financial techniques almost inevitably have to be accompanied by a broadly-based debate about what we expect higher education to be as we approach the beginning of a new century.

We have reached a point in our history when restricting access to higher education to an elite relatively homogeneous minority of young people is no longer appropriate. At the same time, our economy demands not just that higher education provide community leaders as it traditionally did, but also a large population equipped with the specific skills needed by a technologically-advanced society. The kinds of education implied by these changes, as well as the kinds of students that need to be educated are clearly different than they were.

Without clarifying the mission and goals of higher education, both in general and at the system and institutional levels, I don't see how we can measure progress or make decisions about how to allocate responsibilities, especially financial ones, for achieving these goals.

Now, I don't mean to minimize the difficulty of this task or to suggest that we can necessarily approach it in exactly the same way that other types of enterprises do. In his paper, Jim Mingle talks, more than he actually did in his presentation this afternoon, about the conflicts that are engendered by attempts to reach explicit rather than implicit consensus over goals in higher education.

On the other hand, of course, Mike Walsh and others have suggested to us that perhaps we are not so different from other organizations as we often like to think. I think that one direction that we must continue to pursue is the understanding of what we mean when we seek such things as equity, efficiency and quality from higher education at the end of the 20th Century.

The second theme that I want to bring up is that funding mechanisms aren't just a devise for allocating resources from providers to users. They are also an important channel of communication between providers and users. The OECD report that I mentioned pointed out that the terms on which funds are offered show the priorities of those who supply them. The ways in which they are used reveal the preferences of those who receive them.

Thus, an examination of the financing of higher education can help to interpret both the real aims and objectives that underlie political rhetoric and the differences between the priorities of the suppliers and the users of finance. This suggests that another useful direction to pursue would be to take maximum advantage of the possibilities for communication that these channels offer.

Now, again, I don't mean to minimize the difficulties. As a nation, the United States is unique in the extent to which we draw on diverse sources of support for the higher education enterprise. In fact, I have elsewhere argued that it is precisely this dependence on almost all the possible providers that we can think of that have given us the wherewithal to finance the widest access to advanced education in the industrialized world.

As we cope with the economic stringencies of the 1990s, we will certainly be tempted to broaden that financial sponsorship even further if we can identify possible supporters that we are not already hitting up. To my mind, though, this only strengthens the case for insuring that those who provide the funds for higher education and those who use them understand, as they say, where the other guy is coming from. We have talked over and over again in this day and a half, for example, about faculty and clearly faculty do need to understand the concerns over teaching and the quality of undergraduate education that we know are widespread among families and the public officials they elect.

And we heard some of those concerns expressed by at least some of the representatives of public officials this morning. I don't have any better answers really than other people who have brought this up in the last 24 hours about exactly how we do this, but somehow we need to engage faculty in the debate over what they do and how their personal and professional goals mesh with the goals of various constituencies who support their work.

Maybe a starting point is to bring into discussions like this one not only representatives of associations of administrators, but representatives of the discipline *based learned societies of faculty, where issues* of appropriate faculty and work load and working conditions are debated, along with the latest developments in research and theory.

At the same time, though, there are important messages, of course, that users can be sending to providers of funds. For example, if public institutions are increasingly urged in these difficult times to diversify their sources of support, then state officials are going to have to realize that institutional level administrators and faculty will, of necessity, be responsive to a wider set of incentives and concerns.

Similarly, federal officials need to hear that the amount of federal regulatory intrusion is becoming, at least on some campuses, totally disproportionate to the relative importance of the funding that the Federal Government provides.

It is crucial that we continue to explore these issues and, indeed, all the issues of effectiveness, efficiency and productivity that have been on our agenda yesterday and today. We must do so for at least three reasons. First, we are clearly in a period when resources are limited and we have to make sure that we get the most out of those resources that will be available to higher education in the 1990s.

Second, we must reassure a public that has become increasingly skeptical of our enterprise and uncertain about whether the benefits of higher education are worth the costs.

And, finally, we must do everything we can to encourage a climate that is supportive of higher education so that, wherever possible, the additional resources will be forthcoming that will be necessary to educate an increasingly diverse population to the high standards required by the economic and social challenges of the 1990s and beyond.

On behalf of OERI, NACUBO and the College Board, I thank you all for your willingness to join us here and to continue this important discussion.

(Applause.)

MR. HARRIS: As we close this out, I think I would really be remiss if I did not introduce the NACUBO staff people, who have done all of the leg work, the hard work getting this together and will now have to work twice as hard to pull the papers together, the proceedings, the evaluations, which I know all of you are going to put out there. And I have another reason for doing this quickly. I would ask that you not applaud until they all stand up, but after this is over, which will be about one more minute, you may feel free to talk to them if there are some things, like Fred said, you want to follow up on.

First, I would like to introduce Robin Jenkins, the director of the Financial Management Center. Just stand, Robin.

Anna Marie Cirino, the associate director of the Financial Management Center.

Eric Wiesenthal, who I think is outside. He is with the Financial Management Center, but he worked hard on this. I don't think he is in here.

Marie Klemann, who is the director for Professional Development. She went outside as well.

Patricia Morgan, who is a program manager, who did a lot of the spade work on this.

There are other members of the NACUBO staff, who have worked with this particular program. It takes a lot to get something like this on, not just getting the people together, but actually making the contacts with you, the participants coming in. Many of you don't know it, but I am going to catch hell with a capital "H" after this is over for the many people who could not be invited, people who really wanted to come. We just couldn't invite the world.

So, you know, you are going to have some of this, some of the ups and some of the downs.

But I hope you like what we are beginning to try to do on behalf of NACUBO. We feel that this is the direction that your association should be taking the lead in and doing a little bit more of this. And I can assure you that we are going to be talking to not only the Federal Government but the others in the industry to see if we can't do more of these in the foreseeable future.

Thank you very much for your patience. We are delighted that you could join us on this. Thank you.

(Applause.)

(Whereupon, at 3:45 p.m., the meeting was adjourned.)